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ORIGINAL ARTICLES.

A CLINICAL STUDY OF SIXTY-TWO CASES OF INTESTINAL INFECTION BY THE *BACILLUS DYSENTERIE* (SHIGA) IN INFANTS.*

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It is necessary to emphasize at the outset that this study is entirely clinical. The *Bacillus dysenterie*, first proved to be the cause of Japanese dysentery by Shiga, and later to be responsible for the disease in Manila, the United States, Germany and other countries, is now universally regarded as one of the etiological factors in adult dysentery.

Duval and Bassett in 1902, working under Flexner's direction, isolated the bacillus of Shiga from the stools of infants suffering from summer diarrhea. Their results have been confirmed by many other investigators, and infection with the *Bacillus dysenterie* is now believed to be the rule in a large proportion of all forms of the diarrheas of infancy, both in the winter and in the summer.

It is not our intention to discuss the cause of diarrhea in infants, or the bacteriology or pathology of this condition. This clinical study was a part of the investigation carried on during the past summer by the Rockefeller Institute for Medical Research and was intended to deal with the symptoms observed in those patients in whose stools the *Bacillus dysenterie* was found.

The cases that make up the material for this study were all observed by the writers at the Vanderbilt Clinic during the months of July, August and September, 1903. The patients were brought to the dispensary, which is an outpatient service, and the milder cases were seen only every alternate day. The severe cases were, in addition, visited and treated at their homes on the days that they did not come to the clinic by Drs. Peter Irving and Frank Erdwurm, whose efficient co-operation made full reports possible. To insure uniform records use was made of printed blanks upon which could be recorded the history, physical examination and daily observation of each case. The form of blank chart used is shown on page 482.

When a child was brought with a history of diarrhea, effort was made at the time of the first visit to obtain a fresh stool for immediate bac-

teriological examination. By using the thermometer by rectum or inserting a suppository it was possible in most cases to obtain a stool. The stool was passed into a sterile piece of unbleached cotton, then taken at once to the bacteriologists, Drs. Duval and Schorer, working in the same building. In forty-eight hours a bacteriological report on the presence or absence of the dysentery bacillus could be obtained.

At first only those cases were examined bacteriologically that gave the history or presented symptoms of a moderately severe diarrhea; but later, on account of the numerous positive findings, all cases of mild diarrhea and intestinal indigestion were also examined. This makes our report of far greater interest, our cases being successive ones, no selection at all having been attempted after the first four cases; while other cases that have been published up to this time have been those selected for their severity, or for some reason regarded as suitable and likely to contain the bacillus of dysentery. One small series examined seriatim has been reported. Comment upon these cases will be made later.

Some patients were seen but once; in others, though seen several times, the result of the disease was unknown. Undoubtedly some of these cases recovered so that they were not brought back to the clinic; others refused to return after the first injection of the serum.

As routine measures, cow's milk was immediately discontinued and not resumed for several days; in breast-fed infants the nursing was forbidden for a time. Barley water, rice water or broth was substituted for the milk. Free catharsis was obtained by means of calomel and castor oil. Other drugs were rarely used.

There were in all 62 cases of infection with the *Bacillus dysenterie* (Shiga); of these 2 were observed during June, 33 in July, 18 in August and 9 in September. The investigation was begun late in June and ended September 15, so that only during July and August were observations carried throughout the whole of the month; hence, the small number of cases reported in the first and last months, June and September, has little significance.

Age.—Eight of the patients were under three months; 14 were between three and six months; 15 were between six and nine months; 9 were between nine and twelve months, and 15 were over one year, and of 1 the age was not stated.

Of the 8 patients under three months of age, 5 were only slightly sick; 1 moderately, and 2 severely sick.

Of the 14 patients between three and six months 7 were mild infections; 4 moderately severe; 2 severe, and 1 patient was only seen once.

Of the 15 between six and nine months 3 were

* From the Rockefeller Institute for Medical Research, and the Vanderbilt Clinic, New York City.

mild cases; 9 were moderately severe, and 3 severe.

Of the 9 between nine and twelve months 5 were moderately severe and 4 severe cases.

Of the 15 over twelve months, 1 was a mild case; 11 were moderate cases and 3 severe cases.

From an analysis of these cases it would appear that the number of moderately severe and severe cases increases proportionately with the increase in age. This is explained, however, by the fact that a majority of the mild cases under six months of age in this series were breast-fed.

Previous Illness.—An attempt was made to learn if the patient had previously suffered from diarrhea and by reason of this was more susceptible to infection with the *Bacillus dysenteriae*. The statements were so unreliable that no conclusions could be drawn. No other predisposing cause in the way of disease could be discovered.

Symptoms had existed for 5-10 days in 17 cases

" " " " 11-14 " 7 "

" " " " 1-3 months " 10 "

No statement " 3 "

Forty of the cases had given symptoms for one week or less showing that they were brought while they were still acutely ill.

LENGTH OF TIME UNDER OBSERVATION.

1 to 3 days 28

4 to 7 " 12

8 to 14 " 10

2 weeks and over 8

No record (seen only once) 4

Condition at the Beginning of Attack.—Of the 62 cases whose condition at the beginning of the attack was noted, 31 were well nourished; 2 fairly nourished; 11 poorly nourished; 13 were

DIARRHEA INVESTIGATION.

CLINICAL REPORT.

Case No. _____ Investigator _____

Clinical Diagnosis _____ Bacteriological Diagnosis _____ Treatment _____ Result _____ Date _____

190 _____ Name _____ Age _____ No. _____ Flight _____ Tenement, Private, _____ Night _____

Surroundings: Cleanliness _____ Ventilation _____ Sunlight _____ Care _____ Family History _____

Personal History: How long nursed entirely _____ partly _____ bottle fed _____ Food when taken sick, kind _____ Amount _____

Preceding illnesses _____ Condition at beginning of attack _____

Present illness: Duration _____ Onset by vomiting _____ Fever _____ Character of Stools _____ mucus _____ blood _____ Number in 24 hrs. _____ Tenesmus _____

Physical Examination: Well nourished, poorly nourished, emaciated, collapsed. Anemia _____ Fontanel _____ Mouth _____ Teeth _____ Skin _____

Lungs _____ Heart _____ Circulation _____ Extremities _____ Oedema _____ Tympanites _____ Restlessness, Convulsions, Drowsiness, Cols _____

DAILY OBSERVATIONS.

Date	Gen. Condition, Prostration, Excitation, Posture	Temp. Rectal, A.M. & P.M.	Pulse, Count, Character	Circulation, Heart, Murmur, Edema	Respiration, Frequency, Character	Lungs, Cough, Signs	Urine	Nervous System, Restlessness, Convulsions, Drowsiness, Coma	Stool, No. hours, Character	Food, Formula, No. Fed, Signs, Anal. Exam. in 24 hrs. Satisfied? Water?	Vomiting, Frequency, Character	Transillum. Gas, Tympanites	Stools: Number in 24 Hrs. Size; Consistency, Color, Odor, Reaction. Cysts. Amount Mucus and Blood.	Mucous, Mucus, Blood

FACSIMILE OF HISTORY CHART.

Character of Food.—Of the 14 severe cases, 1 was breast-fed; 5 were given condensed milk; 2 Straus' sterilized milk; 2 grocer's milk; 3 fairly clean bottled milk, and 1 case not stated.

There were 14 children entirely breast-fed, 2 children were partly breast-fed; 11 children had been fed on grocery milk; 7 on bottled milk of fair quality; 8 were fed partly or wholly on sweetened or unsweetened condensed milk; 5 on proprietary foods without milk; 2 on Straus' sterilized milk; 2 on home sterilized milk; 1 on peptonized milk; 4 on general diet and no statement in regard to 7 (counted twice 1).

LENGTH OF SYMPTOMS BEFORE OBSERVATION.

Symptoms had existed for 1 day in 5 cases
 " " " " 2 days " 7 "
 " " " " 3 " " 8 "
 " " " " 4 " " 5 "

emaciated, weak and in wretched condition; 2 were in collapse and practically moribund on the first examination.

It is most interesting and instructive to notice in this connection that of the 31 children who were well nourished, 14 had a very mild form of disease, 12 were moderately ill and only 5 severely ill; of the 2 fairly nourished, 1 was very slightly and the other severely ill; of the 11 poorly nourished, 7 were moderately, 3 severely and only 1 slightly ill. Of the 13 emaciated, 3 were severely ill, 10 moderately, and not one had the disease in a mild form. From this it would seem that the most important factor in determining the character and severity of the disease is the previous condition of the child.

Of the cases observed by us 16 were very mild; 31 were moderately severe and 14 were severe; 1 case was lost sight of and so was unclassified.

We characterized as mild those cases that had more frequent passages than normal, but not more than 10 a day, with a temperature of less than 100.5° F. These stools contained undigested food, usually mucus but no blood (such cases were not really sick). Those cases were classified as moderate that had a temperature over 100.5° F. or had frequent passages containing mucus and sometimes, a slight amount of blood. These cases were really sick and showed constitutional symptoms. The severe cases comprised those having marked constitutional symptoms and great depression with frequent mucous stools, often with much blood, and, while the temperature in these cases was usually considerably elevated, many of them and some of the most severe ran an almost afebrile course.

Thirty-four cases did not show a temperature of over 100.5° F. and thus more than one-half of those seen by us were practically without fever. Vomiting occurred in 19 cases, usually at the beginning of the attack.

The number of stools in twenty-four hours was from 2 to 5 in 5 cases; from 5 to 10 in 35 cases; and over 10 in 20 cases. In 2 cases the number was not stated.

Two cases had stools without any mucus; mucus was present in all other cases in varying quantity from a minute amount to practically the whole stool. Blood was present in 17 cases; the quantity of blood varied from a few streaks to enough to color all the mucus; no clots of blood were ever observed.

The following cases are cited as representing types of the different degrees of severity:

Mild (breast-fed infant), P. B., five months old, nursed entirely, every three hours. Had never been ill and his condition at the beginning of the attack was good. His illness began two days previously with three green mucous stools per day. No fever, no vomiting, no blood in the stools. Physical examination was negative. He was rather restless, but otherwise seemed perfectly well and had a temperature of only 100° F. The stool seen at the dispensary was green, moderately large, semi-liquid with mucus, no blood. Breast-feeding was ordered discontinued and barley water feedings substituted; small doses of calomel were given. The following day the condition was the same, character of stools unchanged and the same number. On the next day the stools were two in number, yellow, fecal, with only a little mucus and everything seemed so satisfactory that breast-feeding was resumed with an absolutely uninterrupted convalescence.

Such a case would formerly have been considered a very mild case of intestinal indigestion; but the bacteriological examination showed the presence of the acid producing* type of dysentery organism.

Mild (bottle-fed infant), W. P., six months old, in good general condition. Never had the

breast, bottle-fed from birth; at present being fed a mixture of malted milk 3 teaspoonfuls, and water 1 pint; of this 5 ounces were given every two or three hours. Illness began three days previously with loose, mucous stools, averaging ten a day, no blood, no vomiting. Temperature 100.5° F. Did not seem ill. Acid type of organism cultivated from stools. Patient was under observation six days. Child was given calomel, and shortly afterward a dilute milk modification. After treatment was begun the stools were never more than four a day, were yellow and fecal but had mucus and a few curds. These disappeared and the child was discharged entirely well.

Moderately severe, R. W., five months old. Was nursed for four months, afterwards fed on three parts Straus' milk and two parts barley water, taking only 15 ounces of the mixture in twenty-four hours. The baby was in good general condition when taken sick two weeks before being brought to clinic; the onset had been with vomiting and fever; there had been much loss of flesh and baby was markedly prostrated when first seen. The stools were five to seven a day, large, green with considerable mucus and some blood. Temperature 100° to 101° F. The acid type of organism was cultivated from the stools. The patient was under observation nine days; was given calomel and the milk was stopped two days; then a weak milk modification given. The stools became less frequent, their character improved, and on the last day seen were only two in number, yellow and with some mucus. The temperature was normal.

Severe, M. K., seven months. Had been under observation for six months, at the beginning of which time he weighed 4 pounds 15 ounces. Had been fed on various milk modifications and had gained very well; at the time of the attack was of fair weight and in good general condition. For about ten days had suffered from symptoms of intestinal indigestion. The stools were yellow, frothy, and large, and there were ten to twelve in twenty-four hours. There was some tenesmus and mucus in great amount; no blood. Free catharsis and the substitution of barley water for the milk had no effect; stools were still frequent and yellow, and once contained a little blood. The true Shiga type of organism was found by culture from the stools. The temperature was always low never going above 100.4° F. Imperial Granum was no better borne than the barley. The child constantly failed and the stools were still frequent, as many as sixteen in a day; bismuth only colored the stools. In a week the child was in desperate straits, eyes sunken, fontanel depressed and pulse imperceptible. He was given 20 c.c. of Shiga serum in the buttocks on two successive days. Stimulation by whisky and strychnine and hot baths was resorted to. Child was also given a milk and water mixture, 1 to 6. Very decided improvement was seen almost immediately, the number of stools diminishing in one day from sixteen to four; this was three days after the first injection of serum. From this time convalescence

* The acid producing type, i.e., the one that splits mannite with the formation of acid, is also known as the Flexner-Mannila or "Harrington" organism. The other type that does not split mannite is known as the true Shiga or alkaline organism.

was rapid and three months after the attack he is a fat, well-nourished child, taking milk well and digesting it.

Fatal Cases.—To our knowledge there were 4 fatal cases. It is possible that some others of our cases died, but not while under observation, nor were any in a moribund condition when last seen.

1. J. C., ten months old, in poor condition and emaciated; living in a tenement in fair surroundings, but badly cared for; was taken with diarrhea while being fed on a weak barley water and milk mixture. No history of previous illness, and he had been bottle-fed for eight months. The onset was without vomiting, but with moderate fever and with frequent mucous stools, eight a day, no blood. When first seen on the second day of the attack the baby was markedly anemic; fontanel depressed; heart very feeble; circulation poor; extremities cold; no distention. Lungs negative. Very restless. Milk stopped and barley water given and white of egg with whisky. Temperature 101.8° F. Stools were small and green mucopurulent with streaks of blood. Following day child was extremely prostrated, temperature 101° F.; edema of face and lower extremities; respiration shallow, radial pulse imperceptible. Death thirty-six hours later. The true Shiga type of the dysentery organism was separated from the stools on the first day of observation.

2. G. H., ten months old, in fair condition, living in a filthy tenement, with little sunlight and poor care; was taken sick while being fed a condensed milk mixture. He had been nursed until three months old. The onset was acute by vomiting, high fever, 103.5° F., and diarrhea; stools were six to seven a day and contained mucus, no blood. When first seen, four days after the beginning of the attack, the child was somewhat emaciated; fontanel not sunken; temperature 103° F.; very restless and with some tenesmus. Put on barley water and following catharsis was given a bismuth mixture. On the seventh day of the attack was given 10 c.c. of Harris serum, and these injections were repeated on the eighth and ninth days. By the fourteenth day the general condition was somewhat improved, the temperature having fallen to 100° F., pulse still rapid. The diarrhea had much diminished so that there were only two or three yellow fecal stools a day. A weak milk mixture was given with no bad effect upon the intestinal condition, but the child gradually failed, and in spite of stimulation by whisky and strychnine the extremities became cold; edema came on and the heart gradually gave out four weeks after the beginning of his attack. The mother was densely ignorant and failed to carry out directions, especially in regard to feeding; moreover, she refused to have the child admitted to a hospital. The "Harris" or acid type of organism was separated from the stools on the first day of observation.

3. A. K., three months old, fairly nourished, living in a clean tenement but with little care. Had been nursed entirely for one month. Was taken sick while being fed on Straus' sterilized

milk. The onset was sudden with fever and diarrhea, no vomiting. Stools were mucous but contained no blood, twelve a day; there was much tenesmus. First seen seven days after the beginning of the attack; the child was anemic and in collapse. Fontanel depressed. Heart normal; lungs—fine râles at both bases behind. Child was admitted to the Babies' Hospital four days later and was given, with other treatment, 10 c.c. of Harris serum. Refused food and later regurgitated after feeding. Temperature remained between 103° and 105° F., and the child died forty-eight hours later. The stools had diminished to four a day. The "Harris" or acid type of organism was separated from the stools on the first day of observation.

4. M. McK., seven weeks old, a poorly nourished child, living in a dirty tenement with very poor care. Was taken sick while being fed on condensed milk and a proprietary food. The baby had been nursed for three weeks, but nursing had then been stopped because the mother developed an abscess of the breast. The onset was acute with vomiting, but no fever. The stools were five to seven in twenty-four hours; green, mucous and offensive, but contained no blood. When first seen, seven days after the beginning of the attack, the child was much prostrated and anemic, temperature 100° F., and pulse 100 and weak, cold extremities and restless. After catharsis was fed on barley water, stools remained the same; refused food and in spite of stimulation and 10 c.c. of "Harris" serum the baby died four days later after having been in collapse for twenty-four hours.

Of the fatal cases all were under one year of age; all were artificially fed and were in very poor condition when first observed; in addition, they had only the poorest care and attention.

Breast-fed Cases.—There were fourteen infants exclusively breast-fed that suffered from infection with the *Bacillus dysenteriae*.

1. L. P., six weeks old, good general condition. Stools four to eight a day, watery, with slight amount of mucus, no blood. Five days after the beginning of the attack cathartics were given and barley water was substituted for nursing; in twenty-four hours stools became fecal and the mucus disappeared. Never any vomiting or fever. The acid type of organism was isolated.

2. F. A., six weeks old, good general condition. Diarrhea and vomiting. Stools soft and yellow with some mucus, seven in twenty-four hours. Seen only once. The acid type of organism was isolated.

3. P. B., five months old, good general condition. Onset without vomiting or fever. Three green mucous stools daily. After calomel and withholding the breast the stools became yellow and fecal, two a day, and on the third day of treatment and the fifth of the disease the child was discharged perfectly well. The acid type of organism was obtained from the stools.

4. C. F., two and one-half months old, in good condition at the beginning of the attack. Onset

with high fever, very frequent green, fluid stools with curds and much mucus, no blood, fifteen a day. Temperature 104° F. The acid type of organism found. Referred to hospital but did not go. Seen only once.

5. D. M., four months old, in good general condition; three to five green and mucous stools, no blood; diarrhea began two days before coming under observation. No vomiting or fever; child not at all sick, but the stools contained a little undigested milk and were green for four or five days. On the fourth and fifth days of treatment 10 c.c. of Shiga serum injected. Two days after this the stools became yellow and fecal and the breast-feeding, temporarily withheld, was resumed. The true Shiga bacilli were found in the stools.

6. N. H., eight weeks old, good general condition. Diarrhea with six to eight fluid, mucous stools had begun two days before coming under observation. No fever or vomiting. Castor oil and barley water were followed by prompt recovery in two days. The acid type of organism was found.

7. W. R., eight weeks old, in good general condition. Diarrhea with fluid, mucous stools began without fever or vomiting two days before coming under observation. The exhibition of castor oil and barley water was followed by recovery on the fifth day of the attack. True Shiga organisms found in stools.

8. C. J., three months old, in good general condition. Diarrhea began without fever or vomiting, three days before coming under observation; stools eight to ten, fluid and mucous, no blood. Castor oil and barley water effected a rapid cure in two days. The acid type of organism was isolated.

9. L. G., thirteen months old, fair general condition. Onset acute with fever one week before coming under observation, no vomiting. Stools had been six to eight a day fluid and mucous, no blood, and child had lost much weight. Temperature 101.8° F. Calomel and barley water given. Case seen only once. The acid type of organism was isolated.

10. J. D., one year old, good general condition. The attack of diarrhea began with vomiting and fever; stools four to nine in twenty-four hours, loose, mucous, with slight amount of blood. When seen one week after beginning of attack, temperature was 101° F. Child was somewhat prostrated and emaciated. Tenesmus and prolapse of rectum. Under treatment by castor oil and bismuth, the child improved rapidly.

11. L. A., ten weeks old, excellent general condition, had been sick for one week with diarrhea, five to six yellow, slightly mucous stools daily; no blood, no fever, no vomiting. Calomel and barley water effected a cure in two days, the stools being normal in twenty-four hours. The true Shiga and the acid type of organism were both present.

12. R. A., five months old, good general condition. Diarrhea, six to eight fluid mucous stools

without blood. No vomiting or fever. Came under observation on the third day of the attack. The giving of calomel, barley water and bismuth mixture for two days, followed by a gradual resumption of nursing, effected a cure on the fifth day. The Shiga type of organism was present.

13. K. M., eight months old, good general condition. Diarrhea without vomiting or fever. Stools fluid, mucous, no blood, eight to ten in twenty-four hours. Child sick three days before coming under observation; then calomel, bismuth mixture and barley water brought about a rapid recovery.

14. G. S., seven months old, excellent condition. Diarrhea with eight or nine fluid, very mucous stools without blood. On the eighth day of illness the child was brought to the clinic. Calomel and bismuth with barley water were followed by the reduction of stools to three in twenty-four hours and by the change in character to normal.

Of the breast-fed cases whose records are complete none died, all ran a very mild course, the average being three to four days after coming under observation. Save for the bacteriological findings there was nothing to indicate that their sickness had any relation to true dysentery. These cases, moreover, with hardly an exception, were in well-nourished children. Blood was observed in but one case.

Type of Infection.—There were 42 cases in which the acid type of organism was found; 15 were infected with the alkaline or true Shiga type; in 5 cases both types of the organism were found. Of the 42 acid infections, 9 were classified as mild cases, 21 as moderately severe; 10 as severe; 2 not being classified. Of the 15 true Shiga infections, 5 were mild, 6 moderately severe and 4 severe. Of the 5 mixed infections 1 was mild and 4 moderately severe.

From this it will be seen that in the acid type of infection, as well as in the true Shiga type, the moderately severe cases were most numerous, and there seemed to be no difference in the severity of the disease attributable to the type of infection.

We did not use at all, for diagnosis, the agglutination reaction of the blood of the patients. It has been proven in children as well as in adults that this reaction, while often present, is uncertain and unsatisfactory for the reason that it appears late, not before the end of the first week, and often not before the second or third week, and may disappear early in the prolonged cases; so that we can make our diagnosis by an examination of the stools much more easily and more satisfactorily than by the blood.

Treatment.—As outlined above, the majority of the cases were treated by the usual methods both as to their management and diet. Milk, whether breast milk or cow's milk, was immediately discontinued; barley water, broth or some proprietary food, or, rarely, albumen water being given in its place; it was only resumed when the acute symptoms had subsided. Catharsis by calomel

and castor oil was the invariable rule. When there was great irritability of the intestines with tenesmus and numerous small stools, rectal irrigations, without or with paregoric by mouth, were employed. For temperature that gave rise to nervous symptoms irrigations and alcohol sponging were resorted to. A bismuth mixture was used in a few cases.

Serum Therapy.—There were in all 10 cases in which the serum was injected; 4 were infections with the acid type of organism and were given Harris serum; 6 were infections with true Shiga organism and were given Shiga serum. Only the severe cases were subjected to this treatment, as it was found that in dispensary practice the mothers would not return with the patients after injection unless the disease was apparently serious.

Of the injected series, Cases 1 and 2 were given 10 c.c. of Harris serum and did not return after the injections. Case 3, after receiving 20 c.c. of Harris serum, showed decided improvement; after the injection of 10 c.c. additional this was still more marked, but the child died of marasmus three weeks later without any return of the diarrhea. Case 4 was already improving on irrigations before the injection of the serum, so that no conclusions can be drawn. Case 5 showed decided reduction in the number of stools and improvement in their character after the injection of 10 c.c. of Shiga serum on two successive days. Case 6 received 20 c.c. Shiga serum, but the improvement in the child's condition could not be attributed to the injection.

Case 7 received 10 c.c. of Harris serum when moribund.

Case 8 (the severe case quoted above) improved very markedly after two injections of 20 c.c. each of Shiga serum, but only after an interval of three days, during which time there were additional stimulation and change of diet, so that the effect of the serum is doubtful.

Cases 9 and 10 were apparently uninfluenced by the injection of Shiga serum.

A rash similar to that seen after the employment of diphtheria antitoxin was observed in only one patient, notwithstanding the fact that the quantity of serum injected was very much greater than that ordinarily used in diphtheria.

The difficulties of administering the serum in outdoor practice must be emphasized. The quantity of serum of the present strength necessarily employed is large and must often be injected into an emaciated child, producing a swelling of a size alarming to the laity. Objection arises also on account of the pain of the injection.

From an analysis of these 62 cases observed by us, it seems that certain points are worthy of special note.

1. The unexpectedly great prevalence of the dysentery organism in cases of diarrhea in infants, at least during the summer months. Thus out of 64 consecutive cases examined in the Vanderbilt Clinic, 62 were positive.

As has been mentioned before, this is the first large series of cases examined seriatim that has been made and the result is certainly striking. It is all the more so when we consider that these were cases in dispensary practice, where with the severe the very mildest cases may be seen. Duval and Bassett examined 25 successive cases and found the organism in 19, but it should be stated that the patients were observed in a sanatorium at a distance from Baltimore where, of course, only the more severe cases were sent from the dispensaries, while ours were all ambulant patients and their stools were examined whenever there was the slightest sign of any digestive disturbance. Our cases were also seen very early whereas, in hospitals, the cases are rarely seen until their initial symptoms have passed.

2. All types of diarrheal disease, as characterized by their clinical symptoms, are to be found among these cases. Some were examples of severe and some of mild ileocolitis; others could only be classed as the mildest form of intestinal indigestion. The course of the disease, while usually short, was prolonged in 8 cases.

3. As compared with cases of "summer diarrhea" of other years those in this series were in general much milder; and possibly this was due to two factors: (a) The cool summer. (b) The increasing knowledge among the tenement population of the care of infants and their food.

4. The striking number of breast-fed infants, 14 in 62 cases, more than 20 per cent. of all.

In the series of Duval and Bassett previously mentioned, there were 4 breast-fed cases and a few others in addition have been reported. The great number in our series is accounted for by the fact that all stools from patients with diarrhea were examined. As will be remembered of our 14 breast-fed children, not one was severely or even moderately ill, and only one had blood in the stools. Such cases would therefore not be sent to hospitals, and so usually their stools would not be available for examination.

5. The serum treatment was not given in a sufficient number of cases to warrant any conclusions. While of apparent benefit in some cases, there were others in which no effect whatever was noticed. It may be that larger dosage is necessary; but, if so, the serum must be more concentrated than at present.

A FACTOR IN THE ETIOLOGY OF DISTORTED NASAL SEPTA.

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ONE needs but a moderate acquaintance with the literature of this subject to be impressed by the uniformity with which the several authors insist that all such conditions are due to their own pet cause; or, if they admit any other possibility, that other causation is the rarest exception. Wherefore, I desire to state clearly at the outset

that I regard the factor to which I wish to call—or, more properly—to recall attention, as simply one among many causes of the condition under consideration. I am inclined to think, however, that it receives less attention than it deserves.

My position is stated very simply and briefly thus: That deflected and distorted septa are in many cases developmental defects and require no other cause for their explanation than pure chance. It is understood that cases involving definite new growth of either cartilage or bone are not included.

Recognition of the fact that deflected and distorted septa are frequently associated with high palatine, and narrow alveolar arches is not new: indeed, it is so old as, apparently, to have lost its early attire of explanatory causation and to require fresh dressing out by each new arrival in the field of rhinology. But the significance of the equally ancient observation, that in these cases there is quite constantly a difference in size and form of symmetrical parts of the facial skeleton, seems to have been quite forgotten.

One other fact is to be added: It is that narrow alveolar arch and asymmetrical facial development are found most frequently in association with triangular-shaped teeth and varying grades of irregular dentition, but seldom with the straight-edged teeth and regular dentition.

Given the above facts, our propositions are as follows: The development of the facial skeleton is never perfect; failure in development is frequently so extreme as to prevent union of the two halves, shown in harelip and cleft palate; asymmetry in development is so frequent as easily to be recognized in most faces by the eye alone. These are statements which no one will presume to question. But with their acceptance it hardly seems possible for one to object to the proposition, that in some cases the superior maxillary bones unite at an unduly acute angle; that the vomer and triangular cartilage, one or both, fail of proper articulation with the maxillary, palate and ethmoid bones. From this point the production of deflected and distorted septa is merely a question of mechanics.

Normally the developmental forces which spread the alveolar arch give a vertical resultant which is balanced by the septal tissues. But with an abnormally acute angle between the lines of pressure in the maxillary bones this vertical resultant is increased; and, if the opposing septal resistance is at the same time weakened by imperfect articulation either above or below, distortion and further deflection of those tissues are a mechanical necessity. If there is still further, at the time of the second dentition, when the face is being most rapidly developed, an eruption of triangular teeth with the almost inevitable failure of proper lateral coaptation, all the expansive force which normally comes from the growth of the teeth is lost and the distortion of the septum increases at this time instead of diminishing. The possibility of the above sequence of

events certainly cannot be denied; that it does happen is a matter for clinical proof. The effects of inflammatory changes in the septum, resulting from the injury it suffers, might very properly be considered, but the mechanical side of the case seems sufficient for the present.

My own attention was called to these relations by the following clinical experience, which seems to substantiate the claim that the assumed errors of development do occur: A young girl under my care developed, during her eleventh year, a moderate tendency to mouth-breathing. Knowing that in all her earlier life, her respiration during sleep had been as perfect as possible, I attributed it to a cold and neglected it. A year later, however, it had increased so that it led to an examination of the nose. There was then found a decided deflection of the cartilaginous septum with general hyperemia and swelling of the membranes. The left plate of the vomer was bent pretty sharply outward at its posterior end and apparently was not in articulation with the palate bones in the central line. Nothing abnormal could be seen in the vault of the pharynx. Not being prepared for an operation she was treated through the winter simply with sprays, but without any appreciable relief. At that time her second dentition was well advanced. She had inherited from her father the triangular teeth and they had come in very irregularly. The two lateral incisors had their inner edges rotated backward, and the whole tooth carried inward until it was overlapped by the central incisor fully one half its width. Not being satisfied with the physiology upon which advice seemed based, when a dentist was consulted regarding the regulation of the teeth, and on account of the timidity of the child, I determined to do the regulating myself. Time forbids details of the work; suffice to say that after some study of the matter it became evident that to act on the errant teeth separately, while it might bring them into line, must cause them to stand out like a fringe unless the alveolar arch was broadened, and that, therefore, this was the first thing to be done. It was equally clear that this could be done only by separating the maxillary bones. To this end a band was placed about the second bicuspid and first molar of each side that, if possible, the effect of pressure might be on the maxillary bones rather than the teeth. Pressure was made by means of a small jack-screw upon the two bands. It was made very light at first and increased slowly, but in about two weeks the central incisors had been separated a little over one-eighth of an inch, while the teeth under pressure had not been obviously moved in the bone. Soon after this, and before any effort had been made to move the lateral incisors, the child came to me asking what had happened that she breathed so much more freely.

An examination showed marked decrease in the flexion of the cartilage but no appreciable change in the vomer. When her attention was called to

it she was able to recognize clearly with her tongue the opening between the two bones in the roof of the mouth. It was evident that the bones had been separated mostly at their anterior point, as the groove in the mouth did not extend through the hard palate.

She very soon lost all tendency to mouth-breathing, and this condition of perfect respiration during sleep has continued now for three years, while the hyperemic condition of the anterior nares has long since disappeared. The difficulty experienced in this case in bringing the teeth into such coaptation that they would not again become twisted upon release of the maxillary bones has convinced me that only by a special dispensation of Providence can triangular teeth erupt in symmetrical outline. I am able to explain the results only upon the assumption that the bending of the septum was due to imperfect articulation and undue vertical pressure from the developing maxillary bones; that this pressure was relieved by separation of the maxillæ and that the cartilage was pressed into the groove thus formed. If my conclusions are correct children with irregular teeth, high palatine, or narrow alveolar arch and distorted nasal septum should be treated by the dentist and rhinologist together. Of course this work cannot be done after ossification at the line of maxillary union is well advanced; or after puberty. Yet, before this time the teeth are seldom sufficiently developed to make a satisfactory final regulation if they are of the triangular variety. Hence the earlier work should be directed specially to the correction of the nasal defect and the final regulation of the teeth left for some years later.

I am well aware that a single case does not establish a rule or principle; but the object of this paper is to establish the exception.* That deflected septa may, in some instances, find sufficient explanatory causation in simple developmental defects seems clearly shown in the above case by this sequence of events; development of mouth-breathing coincident with an exceedingly irregular second dentition following perfect respiration in early life; the discovery of a deflected septum nearly closing the right nostril; almost complete disappearance of the septal flexion, a subjective appreciation of freer respiration, and entire cessation of mouth-breathing following directly upon separation of the maxillary bones. With nasal work limited almost entirely to cases associated with pulmonary disease I have had little further opportunity of investigating the subject in children, but rather careful observation of adult cases for the past three years has caused no little surprise at the frequency with which deflected and especially dislocated septa are associated with the other two developmental defects, and has tended to confirm the original conviction as to the frequency of their etiological relations.

* Since writing the above several cases have been brought to my attention showing distorted septa with each form of defective arch in which results promise to be equally satisfactory.

ON THE ABORTIVE TREATMENT OF GONORRHEA IN THE MALE.*

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THE attempts to devise an abortive treatment of gonorrhea did not originate in the immediate past, but were already tried in the days preceding the discovery of the gonococcus, by Ricord, Diday and others.

To those familiar with the severity of the complications and sequelæ of gonorrhea, as well as its wide spread, through all the strata of society, the possibility of aborting this disease, in its earliest hours, or days, must appear almost as a blessing, if the cure can be effected without harm to the patient. There are two methods of achieving this result now at our disposal, viz., the *prophylactic*, by means of which those gonococci which may have obtained lodgment in the urethra are killed immediately, or shortly after the infective coitus, and the development of an inflammation prevented; secondly, the *abortive*, by means of which the already-developed gonorrheal urethritis is cured in a few days, and the pathological changes, which such an inflammation produces, are reduced to the minimum.

The prophylaxis, which is being more and more adopted, is the ideal treatment. It is possible in either of two ways; either through the use of a reliable condom (preferably of fish-skin), or through instillations, injections, etc., of the gonococcicide drugs, immediately after coitus. Thus Haussmann, Kopp and Blokusewski recommend the instillation of a few drops of a two-per-cent. solution of nitrate of silver. Probably the greatest credit, in this direction, is due to E.R.W. Frank, and Weland, for their studies in the prevention of gonorrhea, by means of protargol solution. Both, working independently of each other, succeeded through their inoculation experiments with fresh gonorrheal pus, in demonstrating conclusively that it is possible to *prevent* gonorrhea. I have adopted the prophylactic measures, in my practice, and recommend my patients to instil 2 to 3 drops of a 10 to 20 per cent. solution of protargol in glycerin into the fossa navicularis, as soon as possible after the suspicious coitus. In one case it was possible for me to discover the gonorrheal infection within ten hours after the suspicious intercourse, and to abort the disease with a single injection of 8 c.c. of a two-per-cent. protargol-glycerin-water solution. This case, which I have not included among the thirty cases referred to further on, in this article, I was able to control exactly, and I found, on the first examination, *distinct*, although few, gonococci, in the urethral scraping; at several points there were already distinctly gonococcus-bearing pus-cells. Control examinations were made after one, four, eight, twenty-four and forty-eight hours. Already after *one hour* the secretion, which was called forth profusely by the injection, was free

* Read before the German Medical Society (New York), December 7, 1903; Harlem Medical Association (translation), January 4, 1904.

of all germs, and remained so, which fact I was able to determine by repeated subsequent control-examinations, during a period of several months. The discharge rapidly lost its purulent character, after the cessation of treatment, to become purely epithelial within twenty-four hours, and disappeared entirely after another twenty-four hours.

As is the case with the prophylactic, so the possibility of an abortive treatment depends upon the fact that the gonococci, in the earliest days, when not abnormally virulent, or brought to virulence through irritants, or injury, or a markedly diminished power of resistance of the tissues, have a tendency to remain confined to the fossa navicularis, because the walls of the fossa navicularis are covered with stratified, squamous epithelium, which, as is well known, is resistant to the action of this germ. I am of the opinion that many a gonorrheal infection of low virulence dies out, upon the epithelium of the fossa navicularis, without its bearer having been aware of the fact of the infection. As a result, in all probability also of this power of resistance, the changes in this part of the urethra, demonstrable after the cure of a gonorrhea, are very slight.

If we see a case of gonorrhea early, that is, at the very beginning of the appearance of the visible discharge, then we notice, in addition to the usual reddening of the urethral orifice, beginning hypersensitiveness and a rapid increase in the number of leucocytes, as proofs of the fact that the infection has passed beyond the fossa navicularis, and has begun to develop on and penetrate between the cylindrical epithelia of the pars cavernosa. We also notice that the gonococci which, in the first hours after infection, and so long as the process had been confined to the fossa navicularis, had almost entirely been *extracellular*, now more and more come to lie *intracellular* (I refer to secretion obtained with the loop, just within the meatus, without the exertion of any pressure or stripping of the urethra, the secretion then being gently spread out, on the slide, with the loop. Not by drawing it off with another slide). The more the process extends over the pars cavernosa, and the deeper into the tissues that the infection penetrates, the less are, in my estimation, the chances for the success of any abortive treatment. The sooner one begins with the treatment, the greater are the chances of success, in the absence of complicating conditions. The complicating conditions are the presence of remains of preexisting disease; for instance, chronic gonorrheal infection of the lacunæ, glands of Littre, or prostate; and congenital malformations of the urethra, such as paraurethral passages, or abnormal width, or depth of the lacunæ.

The method of treatment has differed, with different investigators. Ricord, Debenay, Diday and others employed injections of nitrate of silver, in solutions up to five per cent. in strength. Delefosse instils a two to two and one-half per cent. solution of the drug, by means of the Guyon instillation syringe, into the urethra, applying it to

the membrane, from the bulb to the meatus. This is repeated on the following day. If, on the third day, gonococci are still present, a two-thirds to one-half per cent. solution is employed. Pontopiddan reports on 160 cases treated with the two per cent. solution. He applied several drops to the fossa navicularis, after the patient had urinated. In one-third of his cases the disease was aborted; in the rest, the disease ran a mild course. Ullmann injected 3.0 to 5.0 of a two per cent. solution, 4—5 cm. into the urethra, the solution being retained for two minutes; he also reports positive results. Welanders recommends, in fresh, at most two to three days' old cases, that the urethra be first wiped clean, and, following this, the injection of a two per cent. solution, which is retained for two minutes. Féléki recommends, in fresh cases, the penciling of the urethral wall with five per cent. solution, through the endoscope. He states that, where the secretion was slight and of a serous character, one application sufficed; in other cases it had to be repeated, after two to three days. He claims to have had no complications.

Engelbrecht recommends irrigations, according to the Janet method, with 500.0 to 600.0 of a one-fifth to one-third per cent. nitrate of silver solution, after preceding cocainization of the urethra. He claims to have cured nine-tenths of his cases in two days, after four applications. Neisser recommends early irrigations with nitrate solution of 1:3,000 to 1:1,000 strength; Finger and Jassohn report that they have had no success with this method. Tarnowsky is reported to have cured 40 to 50 per cent. of his cases of acute gonorrhea, in four days, by means of nitrate of silver solution; but reports that, in those cases which resulted negatively, the symptoms of inflammation were increased to such a degree that the treatment had to be abandoned. According to the reports of most of the observers, the reaction following the abortive attempts with nitrate of silver solution is very severe and, at times, severe complications arise, resulting even in death, as in a case reported by Cullerier and Guyon.

Another variety of the abortive treatment is the application of Janet's method and its modifications. The irrigations with permanganate of potash are recommended by Janet himself, by Valentine, Goldberg and others; Wossidlo, Horwitz, Weiss and Christian express themselves against the method, as an abortive.

Since we have come into possession of the various drugs, such as protargol, albargin, ichthargan, argyrol, etc., which destroy the gonococcus where they can reach it, while they irritate the mucous membrane but little, various investigators have tried the abortive treatment with these remedies. Thus Ahlstrom reports on 100 cases which he treated abortively. Twice daily, for the first four or five days, he injected 5.0 to 10.0 of a two to four per cent. solution of protargol. For the next three to five days the patients themselves injected with a one to two per cent. solution, which they retained in the urethra for ten to fifteen minutes.

In only 13 per cent. was there a negative result; in 8 per cent he saw complications. He must have had model patients to deal with, since the large majority of patients complain, even with injections of a one per cent. solution, of almost unbearable pain, when the solutions are to be retained in the urethra for ten minutes. Or are our American patients, perhaps, weaklings, when compared to the European? I have found, too, that with such strong solutions, the other symptoms of irritation are so severe that I should hardly recommend them. Neisser and Blaschko speak in favor of the early treatment of gonorrhea, with three to four per cent. protargol solution; Wossidlo, on the contrary, saw no benefit from it, but, rather, unpleasant results.

Casper states that he cannot say of a single case that the beginning gonorrhea was checked by means of the abortive treatment, and would, therefore, recommend its abandonment under all circumstances. Von Zeissl states that he cannot recommend it. Finger states that he believes the rapid cure of gonorrhea to be an impossibility.

Thus we see that the views for and against the abortive treatment of gonorrhea are varied.

Before the urological division of the Thirteenth International Medical Congress, Frank reported upon a series of 60 cases which he had treated according to the abortive method devised by Lewin and himself. The method, whose application and trial I had the pleasure of witnessing, during their experiments, is reported as follows: "After the microscopical diagnosis has been made, the patient passes water. If the second portion of the urine is clear, the anterior urethra is next irrigated under light pressure, with one-quarter per cent. protargol solution, until the fluid returns clear. If the patient is very sensitive, a solution of cocaine, to which, as a precaution, some protargol has been added, is injected into the urethra. Following this we make a large irrigation of both portions of the urethra, with a similar protargol solution, according to Janet's method. The solution is allowed to flow until the patient notices a desire to urinate; that is, about one-quarter to one-half liter, whereupon he empties the bladder. This procedure is repeated upon the following two days." Frank reports upon 60 cases treated by this method. In 27 (45 per cent.) the result was positive; that is, after three irrigations (in one instance after a single one) the gonococci were definitely destroyed. In 26 cases the result was negative. In three of these negative cases gonorrheal infection of para-urethral passages was discovered; after incision of the passages, further two to three irrigations cured the cases. In two other cases, the presence of congenital folds and valves, with narrow meatus, was the cause of the negative result. In 21 cases the prostate was infected, and Frank believed that this infection had already existed at the time the attempts to abort the disease were begun. The remaining seven cases withdrew from treatment, to present themselves later as cured.

My observations, made at the time of Frank's experiments, determined me to test this method of abortive treatment. Although I have, as a result of circumstances, slightly modified the plan of treatment, to meet the requirements of my patients, it remains, in principle, that laid down by Frank and Lewin. In order to be able to control the cases more exactly, I employed it only in the cases of intelligent private patients, who, as soon as they realized the aim of the measures, were willing to help me with all their power. The method employed was as follows: A microscopical examination of the secretion was first made. If the discharge was slight, and if the majority of the gonococci still were extracellular, then the protargol solution was employed in the strength of one-sixth to one-third per cent. If the discharge was at all pronounced, or if the greater part of the gonococci were intracellular, then a one-third to one-half per cent. solution was used. The method was employed, naturally, only in those cases in which the second urine was clear. After urination, the urethra was anesthetized by an injection of a mixture of 4 c.c. of a one per cent. cocaine solution and 4 c.c. of a one per cent. protargol solution. After this the anterior urethra was cleansed with 150 c.c. of the protargol solution. Following this, an irrigation of the whole urethra was made, according to Janet's method, with 150 c.c. of the solution. The patient then emptied his bladder of the irrigated fluid. This irrigation of the entire urethra, with immediate emptying of the fluid, was repeated from one to three times in the same sitting, so that the urethra was flushed four to eight times. In addition, the patient was given a solution of protargol, one-half per cent., with which he was instructed to inject three to five times during the day, and to retain the fluid ten minutes each time. During the succeeding days, if the gonococci had disappeared, the strength of the solution and the quantity of fluid injected were diminished, to be suspended, if the result was positive, on the fourth or fifth day, at the latest. The injections by the patient were also diminished and suspended in a similar manner. Then followed the usual provocative tests and control examinations. I will state, at this point, that I consider the continued absence of discharge, and the absence of gonococci from the shreds (which should be only minimal and chiefly epithelial), from the prostatic secretion (which must also be free of pus-cells), and from the urinary sediment, and this in spite of the tests of cessation of treatment, indulgence in alcoholics, irritating injections, and coitus condonatus, to be a proof of cure, if, after control examinations covering a later period of several weeks, the patient still remain free of discharge and gonococci. Cultures, I believe, should be employed in every doubtful case. I do not, however, believe them to be an absolute necessity to determine the fact of a cure.

In all, I have employed the method in 30 cases (up to Nov. 1, 1903). In 15 cases (50 per cent.) the result was positive; in 15 (also 50 per cent.)

negative. In the positive cases, the gonococci had definitely disappeared in 12 on the second day, in one on the third day, in two on the fourth day. The duration of the treatment and tests varied from five to twenty days. In two cases the fresh gonorrheal infection occurred in the persons of patients who were under treatment for old, endoglandular, non-gonorrheal prostatitis, and in neither of the cases did the gonorrheal infection extend to the prostate. The period of incubation was two days in 5 cases, three days in 4 cases, four days in 3, five days in 1, six days in 1, two to three weeks in 1 case. The patients presented themselves on the first day of the discharge in 10 cases, on the second in 1 case, on the seventh and eight days in 2 cases, on the thirteenth day in 1 case, and on the forty-seventh day in 1 case. In none of these cases was it a first infection; in 4 cases it was a second, in 4 a third, in 4 a fourth. In the remaining 3 the exact number of preceding infections was not obtainable, but in all it was at least the second infection.

Of the negative cases, the gonococci had definitely disappeared in two cases after the fifth day (so that I might even be excused were I to class these cases as positive results); in 3 cases after the tenth day, in 1 after the sixteenth day, in 2 after the twenty-first day, in 1 after twenty-two days, in 1 after thirty-five days, in 1 after thirty-six days, in 1 after forty days; one case is still under treatment (Nov. 1, 1903). Two cases withdrew from observation before the gonococci had disappeared. The duration of the treatment and testing varied from fourteen days to a period of over five months (in the case of the patient still under treatment, where an infection of a lacuna of about 3 cm. in depth has protracted the disease abnormally). The period of incubation was two days in 4 cases, three in 5 cases, four in 1 case, five in 1 case, six in 2 cases, three or six in 1 case, and twenty days in 1 case. Ten patients presented themselves on the first day of the discharge, 1 on the second day, 3 on the third, 1 on the sixth. In 3 cases it was a first infection, in 5 a second, in 4 a third and in 3 the number was impossible to determine, although it was at least the second. The cause of the negative result was, in 6 cases, the involvement of the glands and lacunæ of the anterior urethra; in 1 case the infection, in a mild degree, of the prostate, in a patient who, in spite of my admonitions, repeatedly subjected himself to sexual excitation. In 1 case (one of the patients who withdrew from treatment), the urethral glands and prostate became infected, upon an old, postgonorrheal catarrhal inflammation, for which I had had him under treatment prior to his gonorrheal reinfection. In six cases there was no demonstrable cause for the negative result; but these were all cases which could be discharged as cured in from three to five weeks; in 1 case (the second patient, who withdrew from treatment because he had to return to his out-of-town home), the gonococci were almost entirely gone at the time of his departure.

In only one of the cases (one in whom the abortive attempt was begun with argyrol, to be later supplanted by protargol), did I notice any graver complication, and this was a gonorrheal tendovaginitis of the extensors of the fingers of the left hand, at the forearm and wrist, which appeared on the third day of the discharge and the fifth following the infection. The course of the complication was short and mild, and the result a complete restitution of function.

Several of the patients complained of an unpleasant sensation of burning and tenesmus after treatment, which sometimes lasted one-quarter to one-half hour, even when the weaker solutions were used. This was, however, but little greater than where the usual irrigations form the treatment. Isolated cases showed an extraordinary sensitiveness toward the drug, in that periurethral edema, of varying severity, developed. This disappeared rapidly, however, and formed no real obstacle to the treatment. Almost all of the cases, negative as well as positive, were subjected to control examinations, after an appreciable time had followed their discharge as cured, and all were found to have remained well, and to be still free of gonococci.

That a posterior urethritis (prostatitis) developed in only two of this series of thirty cases (6.6 per cent), I regard as the best argument for the utility of the abortive treatment. If we compare these 6.6 per cent. with the high percentages reported by investigators, under other forms of treatment, then we might say that, if the abortive method did nothing else, it would still be available. According to Leprevost (1884) a posterior urethritis occurred in one-sixth of his cases; Eraud (1886) saw it in 80 per cent., Jadassohn (1889) in 87.7 per cent., Letzel (1890) in 92.5 per cent., Rona (1891) in 62 per cent., Phillipson (1891) in 86.6 per cent., Dind (1892) in 93 per cent., Ingria (1893) in 59 per cent., Finger (1896) gave it as 63 per cent. in his private patients, and 82 per cent. among his dispensary clientèle. In 1890 he gave the figures as 33.5 per cent. Frank (1900) saw it in 32.25 per cent. among his dispensary patients. In his statistics on the abortive treatment, he stated that infection of the prostate occurred in 35 per cent., but as previously remarked, he was of the opinion that this had occurred before the beginning of the treatment. In my two cases it occurred, as before mentioned, in one case following (and, I believe, as a direct result of) repeated sexual excitation during the acute stage of the disease; in the second as a result of a preexisting catarrhal inflammation of the prostate.

That the lacunæ and urethral glands became involved in 6 cases (20 per cent.), I do not consider as an argument against the abortive treatment. The solution may have been too weak, since in only one of the negatively resulting cases was a one-half per cent. solution employed, and this in the case with an old inflammation of the urethral glands and prostate.

I know that the number of my cases is too small to allow me to draw definite conclusions; neither do I wish to claim that the method mentioned in this article is the best one. I only wish to present the experiences I have gained through its application as proofs of the facts: That the abortive treatment of gonorrhea is possible; that if it be employed *early*, the percentage of cases in which a positive result may be obtained is a fairly large one; that when one employs only those drugs which, while they kill the gonococci, do not injure the mucous membrane, the percentage of complications will, most likely, be smaller than has heretofore been supposed; and, finally, that, should the attempt to abort the disease fail, the patient will not have been injured.

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DIFFERENTIAL DIAGNOSIS AND TREATMENT OF CHANCROID AND CHANCER.

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THE differentiation between soft and hard chancres, or chancroids and chancres, is a point upon which a great deal depends, and yet it is one of the hardest problems at times with which the genito-urinary surgeon contends. It is the purpose of this paper to take up the differential diagnosis of these two exceedingly common venereal sores and to outline the treatment (local) of each. If the sore be soft the local treatment will be all that is necessary in the majority of cases; if hard, constitutional symptoms are sure to follow sooner or later, and the sooner these come the better it is for the patient. It is, in the majority of cases, absolutely impossible to convince the patient that two years' treatment is necessary to cure a disease, the only manifestation of which he has seen has been a small insignificant sore on the penis. For this reason, even if the diagnosis is reasonably sure, it is better to wait until constitutional symptoms have manifested themselves before beginning the systemic treatment.

In diagnosing, the first thing to bear in mind is the general appearance of each sore. Then if the sore be typical the diagnosis is easy. A hard or syphilitic sore is generally small and insignificant, situated on or near the corona and generally near the frenum. The edges are indurated and its base is excavated and has a smooth floor with little or no secretion. On the other hand, a soft sore may appear anywhere on the penis, is generally multiple and larger, its base being irregular and covered with a purulent discharge.

Other important points to aid in the diagnosis are as follows: *Incubation period.* In a chancre it is always more than a week and generally from ten to fourteen days. In a chancroid it is always

less than a week and generally from two to three days. When this can be positively determined it is a great aid in our diagnosis, but in a great majority of patients, and especially hospital patients, it is next to impossible to determine at just what time the infection took place.

Adenitis.—The inguinal glands are enlarged in both cases, but are much more apt to break down in chancroidal infection. In the syphilitic sore they are more shotty, uniformly enlarged on both sides, and do not break down as a rule. As the disease progresses the cervical and epitrochlear glands become enlarged. This never happens in chancroidal infection.

Multiplicity of Sore.—As stated before, the hard sore is generally single and the soft may start singly, but almost invariably the discharge causes more sores to appear.

Position of Sore.—In more than 1,000 cases of syphilis I have found that in two-thirds the sore was found on the corona and near the frenum. The chancroid may appear at any point where the membrane was abraded and the infection entered.

The above points will aid in diagnosing the majority of cases, but in a few it is absolutely impossible to state positively the exact nature of the lesion. This is especially true of the cases where both infections occur simultaneously. These patients will develop a soft sore in a few days after intercourse, which will not yield readily to treatment and by the tenth and twelfth day will become hard. In other cases the sore may be indurated from excessive burning with strong caustic and mislead the physician. As the treatment is about the same in both cases, however, the diagnosis only helps us in making a better prognosis, and if it is at all in doubt we should be very guarded in the prognosis until sufficient time elapses to allow secondary symptoms to appear.

I have found the best method of treating these cases to be one of absolute cleanliness. Nothing is to be more condemned than the excessive cauterization practised by so many physicians in all cases of venereal sores.

In either case, whether chancre or chancroid, the first thing to do is to thoroughly disinfect the lesion and to wash the entire penis with green soap and water, then get rid of the soap with alcohol or ether and thoroughly cleanse the sore or sores with a solution of bichloride of mercury, 1 in 2,000. The entire penis is then wrapped in gauze saturated with the above solution, and the patient instructed to keep this wet for about twelve hours. The gauze is then removed and the sores are dried and thoroughly dusted with aristol (pure). This is an excellent dusting powder and keeps the sores dry and has the advantage over iodoform of being odorless, and that is one thing that these patients who are generally hypersensitive most appreciate. After this thorough dressing the patient generally requires nothing but a solution of bichloride (1 in 5,000)

and the aristol. The sores should be washed every three or four hours, dried, and a fresh application of aristol made.

This treatment is generally all that is necessary for an average case of chancroids. If, however, there are complications, other procedures may be necessary before the sores can be thoroughly cleansed. One of the most common complications is phimosis or paraphimosis. This should be relieved by slitting up the dorsum and laying the glans bare. The rest of the operation for circumcision may be done later. Care should be taken that the cut surfaces of the prepuce do not become infected. They should be covered with aristol.

The above treatment applies to chancroids and all mixed sores. If the diagnosis of chancre be positively made the same procedures may be followed, but I have found that if, after cleansing the sore, a dusting powder of aristol and calomel (equal parts) is used the results are better. Under no circumstance should the patient be put upon antisyphilitic treatment until the diagnosis be confirmed by the appearance of secondary symptoms.

I believe that if this treatment be followed out in all cases (especially chancroids) that the sores will heal much more readily and the danger of complications will be arrested. The old custom of burning every venereal sore with pure carbolic acid or nitric acid only aids in delaying the healing process and makes an unsightly scar in a great many instances.

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THE OCULAR SIGNS OF SYPHILIS.*

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It would be of much interest and decided value if it could be shown by statistics just what proportion of syphilitics present ocular lesions, but it is doubtful whether this will ever be accomplished. Patients thus afflicted are not prone to tell all they know even under the most artful questioning, so that all figures bearing upon this question must naturally represent a lower percentage than actually obtains. Moreover, syphilis may be contracted venereally and yet without the knowledge of the patient (as for instance, urethral chancre) and if the secondary symptoms are not marked such a patient could conscientiously aver that as far as his knowledge went he had never been infected. Finally, many cases of syphilis are contracted innocently, and thus without the slightest suspicion on the part of the patient of the nature of their malady. Should anyone be disposed to smile at the idea of innocent syphilis, let them consult Bulkley (*Syphilis Infantum*, p. 894), who has brought together authentic histories of over 9,000 cases of chancre situated elsewhere than on the genitals—and be

convinced. There is no tissue of the eye or its appendages that has not been invaded by syphilis. Just what percentage of syphilitics exhibit such ocular invasion is, as has been said, impossible to say. DeWecker, the noted French ophthalmologist, says 15 per cent. Alexander (*Syphilis und Auge*, 1889) quotes six foreign ophthalmic observers besides himself. Their combined statistics include 138,000 cases, among whom 2,998, or 2½ per cent., furnished a syphilitic history. In 1,385 ophthalmic cases with a specific history, Alexander (*loc. cit.*) found the ocular muscles affected in 15 per cent., the uveal tract in 24 per cent. and the optic nerve and retina in 48 per cent. of all the cases.

Syphilis in the visual sphere may assume any one of the four usual phases, namely the primary sore, the secondary, the tertiary and the hereditary phase.

The most usual site for the primary sore is at the margin, or just within the margin of the lids. In his work (*loc. cit.*), Bulkley reports 159 such cases. They may be induced by poison carried to the eye by the finger, or, as frequently occurs, by the use of the tongue for the removal of foreign bodies in the eye. This custom is not uncommon among the lower classes, and if oral syphilis be present in the one who performs this absurd office an initial sclerosis appearing on the lid is entirely possible.

Secondary syphilis may affect the cornea, the uveal tract or the optic nerve and retina, but it certainly has a marked predilection for the uveal tract. It is a fact as well known to-day to syphilologists as to ophthalmologists that the iris is quite as likely to be the seat of secondary signs as the skin, the oral and the rectal mucosa. The percentage of cases of iritis in which syphilis is operative is stated by Von Arlt to be 29 per cent.; by de Wecker, 55 per cent.; by Mauthner, 70 per cent.; Schnäubel, 48 per cent.; von Graefe, 60 per cent.; Knapp, 30 per cent.; and Alexander, 60 per cent., all quoted by Alexander (*loc. cit.*). This makes a mean percentage of 50 per cent., which agrees perfectly with the figures of Brunson of the Hot Springs of Arkansas, who has probably seen more syphilis than any ophthalmologist in this country. So that every iritis is open to the suspicion of being syphilitic until trauma, tuberculosis, microbic infection or the rheumatic diathesis have been plainly shown to be causative. Choroiditis is perhaps as frequently syphilitic in origin as iritis, and is even more valuable diagnostically than iritis, inasmuch as it almost invariably leaves scars in the choroid that may be studied years afterward in cases of doubtful tertiary aspect. Iritis on the other hand may be so successfully treated as to leave no telltale traces behind. But should there remain attachments between the iris and the lens capsule, they are often of great assistance in establishing the probable history of a previously active syphilis.

The optic nerve is a bit of tissue that is as often tertiary as secondary in its involvement. Nine

* Read before the North Branch of the Philadelphia County Medical Society.

German observers found optic neuritis of specific origin in 56½ per cent. of 981 cases. Oftentimes this was a part of a central tertiary syphilis, but the fact stands out that this bit of highly specialized tissue is peculiarly susceptible to the action of the syphilitic poison.

Most frequent of involvement in the tertiary process, however, are the intra- and extra-ocular muscles. Alexander (*loc. cit.*) found 56 per cent. of 269 extra-ocular palsies to be luetic, while 77½ per cent. of 76 intraocular palsies were definitely syphilitic. This is a very high percentage, but Alexander is a very high authority and his figures are pretty well supported by those of other workers. The appearance of an ocular palsy, heralding itself by the sudden onset of double vision, is a grave omen at best. In the absence of diabetes or trauma, it generally signifies beginning obliterating endarteritis in the carotid system of vessels. Sudden fleeting palsies of a few days duration occurring at intervals of a few months or years are almost invariably the warning signals of locomotor ataxia or general paresis. Formerly they were called rheumatic for want of a better pathology, but to-day we know more of what they mean.

Finally, tertiary lesions may appear in the lacrimal sac as extensions of similar lesions in the nose and accessory sinuses; and also in the lids as ulcers or broken-down gummas. Gumma of the iris is somewhat rare, but sometimes offers a classic picture of this phase of syphilis.

Hereditary Syphilis commonly affects the cornea in childhood and young adult life, although the ocular muscles are also sometimes hereditarily involved. Interstitial keratitis is the form assumed by this phase of the disease. A tendency to run its course is the most marked characteristic of the affection. The flat nose, bluish gray-white corneas, mouths with scarred corners, depressed cheek bones and imperfect teeth make this a clinical picture that should be relatively easy of recognition. Deafness due to inflammation of the auditory nerve and its terminals is a frequent accompaniment of the ocular lesions. Indeed, Jonathan Hutchinson asserts that notched teeth, bluish scarred corneas and deafness make a trinity on which the diagnosis of hereditary syphilis may be based in nearly every case.

Inasmuch as syphilis generally attacks the eye savagely without regard to the tissue involved, patients as a rule appear in the early stages of the disorder, affording opportunity for prompt medication, and the results of the treatment of syphilitic eye diseases are therefore usually very gratifying. Moreover, the ease with which the effects of the treatment may be daily studied and seen makes the treatment of ocular syphilis peculiarly satisfactory. Necessarily the caprice of the ophthalmologist will decide what form of mercury shall be exhibited, but whatever method be employed, one thing is certain; that is, that the pilocarpine or sweat cure will tremendously assist the efficiency of whatsoever of antisymphilitic remedies may be resorted to.

DIAGNOSIS AND TREATMENT OF SYPHILIS OF THE CENTRAL NERVOUS SYSTEM.

BY LUTHER C. PETER, M.D.,

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A SHARP dividing line should be drawn between the immediate and remote effects of syphilis of the nervous system. The first is the result of direct action of the luetic virus, and the second is due to organic changes which follow long after the infection has disappeared. In this paper we have to deal only with the immediate infection, the symptoms of which make their appearance usually from six months to two years after the initial lesion, although they have in some cases appeared later.

Ayers (*Pennsylvania Medical Journal*, August 1903, p. 565) classifies the underlying pathological conditions of brain syphilis as (1) a localized meningitis leading to thickening and infiltration, (2) inflammation of the arteries leading to thrombosis, (3) gummatous deposits or tumors and (4) degeneration of nerve structures. Gummatous growths and tumors rarely offer difficulty in diagnosis, producing symptoms which are characteristic of new growth in the brain or cord. The history of a chancre or without this history, the rapid onset and the therapeutic test easily determine the nature of the growth. Thrombosis of arteries and meningeal thickening oftentimes furnish a group of symptoms which are not easy to diagnose. Given the history of infection, the multiplicity of symptoms and the absence of systematically arranged symptoms are features upon which one can place much confidence. In looking over my records and those of the Medico-Chirurgical Hospital, I was unable to find two cases which were exactly alike even in some of the essential points, except perhaps in the distribution of the palsies which usually are hemiplegias or monoplegias.

Paralysis of the cranial nerves, when there is no history of traumatism, is a third factor in favor of syphilis. The fifth and seventh pair are most apt to escape, whereas the sixth is usually involved. In fact, so often is paralysis of the sixth due to syphilis that some authorities regard it as almost invariably due to luetic infection. Willot (*l'Echo médical du Nord*, April 19, 1903, p. 183), however, reports 15 cases of paralysis of the external rectus which were due to influenza, and he believes that we are too apt to regard paralysis of the sixth as always syphilitic. The fact remains, however, that in a great majority of cases syphilis furnishes the virus, and when cranial nerve palsies are found associated with other symptoms of "nervous syphilis," it is strong presumptive evidence of the nature of the trouble. By way of illustration:

Case I.—C. F. H., aged thirty-five years, had a chancre about eight months ago, followed by a profuse eruption. He now complains of head-

ache, vertigo, double vision and drooping of the right upper eyelid. Examination reveals ptosis of the right upper eyelid, marked rotation of the right eyeball upward and outward, inequality of pupils (the right larger than the left) increased deep reflexes and an exalted mental state and a loquacity in excess of his usual habit. The case is clearly one of syphilis of the brain and the eye phenomena furnish strong corroborative evidence.

Inequality of pupils is found in a large number of cases, probably in two-thirds, but in itself is of little value, since it is a common symptom in brain and cord disease. It is, however, of value when associated with other symptoms. Of more importance is irregularity in the pupillary border, which when present points to an old syphilitic iritis. It is of especial value when a history of infection is denied by the patient, for usually it implies the existence of syphilis at some time. It is a local condition, not connected with the nervous system, and only is a guide, not always infallible, but usually of very great help.

Apoplectoid and epileptiform attacks are frequent and their significance may easily be overlooked. Such attacks may come on suddenly, without warning, or they may be preceded by a numbness in one or more extremities, and after the unconsciousness, the patient may in a little while be himself again or parts of the body may be paralyzed. Attacks of unconsciousness or convulsions may be the first warning of the patient's condition or they may only be an incident in or a part of a group of symptoms already existing. In the latter event their presence but adds confirmatory evidence to a diagnosis already made. The appearance of attacks of unconsciousness or convulsions in an adult apparently healthy previous to their advent, should call forth a most careful search for a history of syphilitic infection and other symptoms corroborative of brain syphilis. Some authorities regard epileptic seizures which develop after thirty years of age as almost invariably caused by syphilis. This is hardly borne out by statistics, but the fact remains that a large number at least are syphilitic in origin. On the other hand, fainting attacks in an apparently healthy man, are so unusual that the gravity of the underlying cause is forced upon the physician. By exclusion of other causes, syphilis will be found in many cases, and other symptoms, if diligently searched for, may confirm the diagnosis. A case in point is that of

Case II.—M. S., aged forty-three years, who had a chancre some months before the nervous trouble began. At the time of his first visit he had been ailing for seven weeks, complaining of a pain in the right leg so severe as to keep him awake at night. Sept. 12, 1901, some weeks later, he complained of a "sudden stopping of the heart," feeling as though it had ceased to beat, became faint but was not unconscious. He was carried home and put to bed. Since then he complains of a weight in the right arm, and attempts

to write, cause cramping of the fingers. Nov. 21, 1901, two months later, as he was about to get up in the morning, he noticed black spots before his eyes, and then became unconscious. He now has diplopia, slight paresis of right side, increased knee-jerks and marked depression of spirits. Cardiac and renal functions are normal. In this case the apoplectiform attacks are the dominating feature and, together with the history of chancre make the diagnosis quite positive.

Instead of recurrence of attacks of unconsciousness and convulsions, one may have recurrent temporary palsies, and recurrence of palsies is a most characteristic symptom of syphilis, whether of the brain or cord. When due to brain lesions they usually are monoplegias or hemiplegias, and, as a rule, are not accompanied by unconsciousness. In fact, a monoplegia or hemiplegia, gradual in onset, without unconsciousness, accompanied by spastic reflexes on the affected side, and showing a tendency to improvement with subsequent relapse, is, almost without exception, syphilitic and due to a thrombosis of a cerebral artery. A good example is

Case III.—G. L., sixty years old, infected by syphilis six months previous to onset of present trouble. He awoke one morning to find a "feeling of pins and needles" and a weakness in his left arm. During the following three days the arm gradually grew weaker but not absolutely paralytic. Three weeks previous he had much headache. We found him to be well nourished, his chest and back covered with numerous copper-colored scars, pupils equal, moderately dilated, responsive to light and accommodation; all movements of the left arm were weak but not entirely lost, biceps tendon and knee-jerks on the left were spastic and all muscle-jerks and deep reflexes on the right were increased. Under anti-syphilitic treatment the arm improved.

Somnolence is a symptom of great value in the diagnosis of brain syphilis, being present in a majority of the cases. It is of especial value when associated with other evidences of syphilis of the brain.

Mental changes are observed in many cases but they are not diagnostic in themselves. The psychoses vary from slight changes, a feeling of well-being and self-satisfaction, to maniacal and melancholic outbreaks. The subject of mental state is too comprehensive to admit of discussion in this paper.

To sum up briefly, variability in symptoms, absence of systematic grouping of symptoms, paralysis of cranial nerves, Argyll-Robertson pupils, irregularity of pupillary margin, inequality of pupils, apoplectiform and epileptiform attacks, recurrent palsies usually without loss of consciousness, numbness in extremities, increased reflexes, headache, vertigo, somnolence and altered mental states, are symptoms which point to syphilis of the brain and its coverings.

It is impossible to differentiate, in so brief a paper, between this condition and other diseases. Suffice it to say, however, that paresis, with which

this condition may be confounded, may be distinguished by its making its appearance quite late, ten or more years after the first infection, and by the early appearance of mental symptoms which usually precede the motor phenomena.

In syphilis of the cord we have a distinct group of symptoms, first described by Erb, characterized by a slowly oncoming spastic paraplegia, atrophic at times, contractures of the muscles, with involvement of the bladder, slight disturbance of sensation, with a tendency to improve and again relapse. The essential point is the widespread involvement of the entire cord, more extensive, however, in one region than another, giving rise to complete loss of function in certain parts and preservation in others. Without even the history of a chancre, a diagnosis of syphilis of the cord may be made, especially when brain symptoms are present, which is usually the case. A case which illustrates typically disease of the brain and cord is that of

Case IV.—D. B., whom I had under observation for about six years. He was thirty-nine years old, and his first symptom developed several years after the appearance of the chancre. He first complained of recurring numbness in one or more extremities, some loss of control of bladder and occasionally of the rectal sphincter. Some months later he rather suddenly lost power in the left leg and partially in the left arm but was not unconscious. He had headache and vertigo and at times had difficulty in speech (motor aphasia), which passed off as quickly as it came. Diplopia was present throughout. Examination revealed a spastic palsy of the left leg and a partial palsy of the left arm, a spastic knee-jerk on the left and an absent knee-jerk on the right, ataxia in the left arm, ptosis of the left upper eyelid, the right pupil oval and contracted, the left irregular and dilated. Sensation to touch was present but he could not distinguish heat from cold and could not always recognize a pin prick. He had the classic Argyll-Robertson pupillary phenomenon and paralysis of the left external and superior rectus muscles. With the ophthalmoscope the right eye showed a low grade of optic neuritis and the left beginning optic atrophy. Four years later he was bedridden and otherwise about in the same condition as above described. His mental state was good but he had difficulty in speech at times. With slight improvement and again exacerbations, he continued in much the same condition for six years and finally died from pneumonia. A post-mortem examination showed, in addition to the pneumonia, syphilis of the brain and cord and their coverings and a chronic nephritis.

It is true that not all cases of syphilis of the cord are as typical as the above case or of the type described by Erb, but the essential feature is usually present, namely a widespread but irregular involvement of the cord.

Little can be added to the approved treatment of to-day. Potassium iodide and mercury do all that drugs can do when administered properly.

The best method is the intermittent use of both drugs. Inunctions (the ideal method of administering mercury) may be used twice daily until the physiological effect is reached, either alone or with ascending doses of potassium iodide. After a mild gingivitis is produced, mercury may be withdrawn, and the iodide continued alone for a period, after which inunctions may again be instituted. In spinal syphilis, especially, should treatment be continued at intervals for several years because of the great tendency to recurrence.

The hypodermic administration of mercury has little to commend itself, and the annoyance of abscesses and danger of consequent gangrene, render this method inferior to the administration by inunctions.

THE RECOGNITION AND TREATMENT OF SOME OF THE PHARYNGEAL LESIONS OF SYPHILIS.

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AS THE pharynx is the most common local site of the various manifestations of syphilis and as the lesions of this disease are seen here in one form or other in the vast majority of syphilitic patients, it is desired at this time to call attention to the more prominent features indicative of the presence of but three of these lesions, namely, the erythema; the mucous patch; and the ulceration, and to briefly outline the form of treatment which has proven most successful in my hands.

Syphilitic erythema as a secondary manifestation of the disease, may be, and I believe often is, mistaken for catarrhal pharyngitis or tonsillitis. The subjective symptoms in many cases are essentially the same and as in private practice the question of syphilis is not usually considered in what appears to be a simple case of subacute pharyngitis, it is probable that many errors are thus committed and the disease proves rebellious to a form of treatment that is not at all indicated. An objective examination of the pharynx should, however, make the diagnosis perfectly clear in the great majority of cases, and under such circumstances the erythema is usually symmetrical, being limited in outline by abrupt, well-defined margins from the healthy mucosa; the contrast at times being most striking, as the patch of congested tissue may be limited to but one pillar, or involve an entire half of the soft palate, stopping in the median line by a limit as if made with mathematical precision. While the color of the affected area is not always characteristic, yet it differs from that of simple erythema, inasmuch as it presents a deeper brick-red or more of a copper hue, and as a further characteristic there is a marked tendency to the development of small irregular patches of cloudy swelling of the epithelium, in this form being shown by linear semi-translucent areas or minute irregular shaped patches.

When these areas of epithelial change become larger, well defined and present a whitish or bluish-white color, they then constitute the second

phase of syphilis, which it is desired to consider—the so-called mucous patch. These are constantly found in cases where the pharynx is involved, and while they may appear anywhere on the mucosa of this region, yet their most constant site is upon the soft palate, pillars and tonsils. Oval, circular or stratiform in shape, they present a slight elevation upon the somewhat swollen and hyperemic mucosa and partake in their symmetry of the disposition of the erythema in this respect. This specific manifestation is practically characteristic and it is hardly possible for one not to recognize it, although it has been confused with herpes of the pharyngeal mucosa; the latter is quite rare however, is attended with considerable pain and consists of groups of broken down vesicles with detached epithelium. In addition to the presence of the mucous patch upon the site previously mentioned, it is also commonly seen where irritation exists, especially at the sides of the tongue and either here or on the buccal surface in the immediate vicinity of a diseased tooth.

While both the erythema and mucous patch present a degree of considerable import on account of their early appearance and thus by their presence enabling one to prevent further and more serious phases of the disease, the syphilitic ulceration is far more fraught with danger to the patient and its early recognition is essential in order to prevent tissue destruction that may seriously endanger life. The areas of tissue disintegration at first shallow, cover a wide, irregular surface and rapidly cause the soft tissues to melt away, while the affected parts are covered with a thick, muco-purulent, offensive secretion. Unlike other affections seen here, the tendency to disintegration and perforation of bone is most marked, and with but little or no pain a large, ragged opening may be rapidly produced between the oral and nasal cavities; osseous destruction being especially marked when an ulcer occupies any portion of the palate. This tertiary phase of syphilis resulting from the breaking down of the gummatous deposit can rarely be mistaken for other pathologic changes in this region, although under such circumstances the question of tuberculosis, lupus and carcinoma rarely may enter into the differential diagnosis, while in a few cases I have seen tertiary ulceration of the tonsils treated for several weeks as well-marked cases of diphtheria. As carcinoma and lupus of this region without manifestations elsewhere are extremely rare and as a tuberculous ulceration of the pharynx of such degree as to at all simulate syphilis would be accompanied with prominent laryngeal and pulmonary symptoms, it seems unnecessary to further indicate any material differences here, while diphtheria can always be recognized by the presence of the specific organism and any confusion between the two diseases can only be the result of gross carelessness.

Three of the most important factors, however, in the recognition of pharyngeal syphilis remain to be mentioned, and while the local lesions in

themselves often are sufficiently characteristic to be readily recognized, yet in order to be perfectly secure in the diagnosis, evidence of one at least of these factors should be obtained. I refer to the history of the initial infection, the examination of other portions of the body for evidences of the disease, and finally the results obtained by specific treatment.

As is well known, it is often impossible and frequently not advisable to obtain the history of the primary infection, as in those cases where the question is asked in regard to a primary sore, its presence is usually denied or in late cases of tertiary ulceration, the patient may be perfectly sincere in denying its former presence. A negative history is therefore of but little value and if the local lesions are not sufficiently characteristic, dependence must be placed upon the two other factors mentioned.

In both the erythema and mucous patch, examination of other parts of the body will, in the vast majority of cases, reveal the scar of the chancre, the dermal eruption will be well marked, or in case the latter has faded away, some discoloration in more or less symmetrical areas will usually give a clue to the nature of the throat lesion, while in many cases of tertiary ulceration with both these factors indistinguishable, dependence will have to be placed upon the post-cervical glandular swelling, and, if present, of the nodular swellings over the tibia region.

While tuberculosis is usually affected adversely by antisyphilitic treatment, yet pharyngeal carcinoma for a week or two may present some slight improvement under such conditions, but this is transient and in some cases, especially of tertiary ulceration, it is almost impossible to be assured of the diagnosis until the favorable results of specific treatment have been observed.

While both local and general medication have their place in the care of the syphilitic patient in whom the pharynx is involved, yet the latter is of far more importance and many cases in my experience receive no added benefit from local applications. For the erythema mercury is essential, and usually the protiodide in one-quarter to one-third grain doses two or three times daily, will rapidly cause this symptom to subside, while in occasional cases an astringent gargle such as that composed of rhus glabra will accelerate the disappearance of the congestion.

The same form of mercury has also given me the best results in the treatment of the mucous patch, but often the area of epithelial degeneration proves most rebellious to treatment and the occasional application of a 20 to 50 per cent. solution of nitrate of silver will be of material aid, while in other cases the silver salt will apparently be of no value at all and then chromic acid applied locally by moistening a few crystals on the end of an applicator tightly wound with cotton, will often cause the rapid disappearance of the patch. In the mucous patch seen well on during the early tertiary stage of syphilis, mercury will often not only be of no benefit, but will in a

few cases apparently aggravate the condition. Under these circumstances three to five-grain doses of potassium iodide will usually produce marked relief, and the necessity for local treatment either with mineral astringents or caustics will be obviated.

The indications for treatment of the tertiary syphilitic ulceration demand most active measures, as the tissues break down almost within a few hours and serious if not fatal consequences must necessarily ensue, unless the destructive process be checked within a very short time. Iodide of potash should be immediately exhibited in from 15 to 20 grain doses, three times daily and increasing the amount by five-grain doses until a favorable action upon the syphilitic process is observed or tolerance has been reached. Frequently one, two or three hundred grains daily will be necessary and the amount used should depend entirely upon the result obtained. At the same time mercury in the form of the bichloride or protiodide should also be administered and in severe cases, especially when the osseous tissue is beginning to break down, it should be given either by hypodermic injection or inunction. Locally, necrosed bone should be removed when it has separated from the surrounding tissues, exuberant granulations controlled, and a cleansing antiseptic mouth-wash may be ordered to remove the purulent debris.

NEW STAIN FOR DIPHtheria BACILLI

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BACTERIOLOGIST STATE BOARD OF HEALTH OF FLORIDA.

THOUGH Löffler's blue properly employed gives as a general rule very satisfactory results in the staining of the *Bacillus diphtheriae*, it is an acknowledged fact that in some cases it fails to bring out the methachromatic granules which play such an important part in the diagnosis of this microorganism; the same is true of Roux's and other stains commonly used. Neisser's stain shows the granules well, but, unless used with a good deal of care, it also fails in many cases. This is especially the case when staining smears made directly from throat exudates.

While experimenting with Romanowsky's chromatin stain for malarial parasites prepared with Borrel's blue instead of Höchst's, it occurred to me to try Borrel's blue in the staining of the *Bacillus diphtheriae*. Borrel's blue is prepared by the dissolving of a few crystals of silver nitrate, about four grams, in 50 c.c. of distilled water and adding 100 c.c. of normal caustic soda solution. The black precipitate which is formed is washed several times in distilled water and then added to 250 c.c. of saturated water solution of Grubler's methylene blue. The mixture is placed in the incubator at 37° C. during eight days and then decanted. The solution has a deep violet color.

I used at first Borrel's blue in several strengths; then I combined it with vesuvin. A

mixture prepared according to the following formula gives very good results:

B. Borrel's blue 1 c.c.
Vesuvin, watery solution, $\frac{1}{100,000}$ 50 c.c.

The vesuvin should be dissolved in boiling water.

Diphtheria bacilli stained with this solution show the metachromatic granules much better than with Löffler's blue, and this mixture does very well for specimens with a large number of diphtheria bacilli, but when these are scarce and other throat organisms are abundant, it is sometimes difficult to find the characteristic bacilli. For this reason I have devised a method of staining by means of which all other bacteria usually present in the throat with the exception of yeast cells and some large non-identified cocci, are decolorized, the bacilli of diphtheria appearing as pale blue rods with deep reddish-brown granules, in the almost colorless field.

The method of staining is the following: Prepare films in the usual way: (1) Borrel's blue, 5 minutes; (2) wash in distilled water; (3) Lugol's iodine solution, 1 minute; (4) wash in distilled water; (5) decolorize in absolute alcohol until no more blue is given off; (6) wash in distilled water; (7) dry and mount.

The smears should be thin and evenly spread, otherwise the decolorization will not be uniform. The best results are obtained with cultures from eighteen to twenty-two hours old, grown at 37° C. Cultures grown above 37° C. do not stain so well. Smears prepared directly from the swab stain very characteristically, so that the disease can be often diagnosed by staining smears from the throat exudate.

MEDICAL PROGRESS.

MEDICINE.

Volumetric Estimation of Sugar in Urine.—A new method of rapidly determining the amount of glucose in urine is published by E. RIEGLER (Münch. med. Woch., Feb. 2, 1904), and is destined to come into common use. It is based upon the fact that glucose is oxidized in the presence of permanganate of potassium with the formation of carbonate of potassium and carbon dioxide. By adding sulphuric acid, gas is liberated from the former and can be measured with the latter in a specially constructed apparatus. By subtracting a definite figure corresponding to other oxidizable substances in the urine and by consulting a table with due regard to the temperature and atmospheric pressure, the percentage of sugar can be readily determined with considerable accuracy.

Influence of Trauma in Movable Kidney.—Among the many etiological factors in the production of this condition, trauma has been assigned an important place. M. L. HARRIS (Jour. Am. Med. Ass'n., Feb. 13, 1904) has examined a large number of cases of railroad injuries, and among about 1,300 there were 41 instances in which this question arose. In about one-half there was a characteristic form of the body with contraction of the middle zone, which the author believes is an important element. After a careful analysis of these cases, he concludes that not in a single one was it certain or

probable that the kidney was made movable by the accident. Movable kidneys occur in women with a particular body form and practically all who possess this have movable kidneys to a greater or less degree. The author also believes that movable kidney is not produced immediately, but requires time for its development. While it is possible to injure, crush or suddenly displace by violence a normally fixed kidney, such displacement is always accompanied by a laceration of the perineal tissues, which is manifested by distinct local and general symptoms. Severe injuries of this kind are seldom or never followed by movable kidneys. Finally, a movable kidney is never the result of a single trauma.

Tendon Reflexes in Uremia.—Although uremia has been pretty thoroughly studied, no great attention has been given to the condition of the reflexes in reference to the diagnostic significance of the excess of excitability, which is undoubtedly present to a remarkable degree. W. M. STEVENS (Brit. Med. Jour., Jan. 16, 1904) states that his attention was first directed to the subject by seeing a patient suffering from well-marked uremic coma, present, besides exaggerated knee-jerks, ankle-clonus, knee-clonus, wrist-jerk and elbow-jerk. Although these reflexes are not by any means always present in uremia, the symptom is common and under certain circumstances, it may prove of diagnostic value. In differentiating cerebral hemorrhage, which may begin with a convulsion and may be unassociated with any evident paralysis, and which not infrequently is the result of granular kidney in which case the information obtained from the urinalysis is defective, the author believes that an examination of the deep reflexes might often prove of much assistance, for if one found exaggerated knee-jerks and ankle-clonus with perhaps other signs of great myotatic irritability, a diagnosis might be made. An absence of the signs, however, should not negative the affection. In certain convulsive attacks such as epilepsy, there may be difficulty in differentiating uremia. Here again the exaggeration of deep reflexes may prove helpful. Bevor has pointed out that immediately after epileptics fits, the deep reflexes may be exaggerated. his condition, however, lasts but a few moments, whereas in uremia, if present, it is apt to be permanent. Furthermore, the presence of deep tendon reflexes may be of great service in prognosticating the advent of uremia if they are found present in a case suffering from dyspnea, sleeplessness, headache, vertigo and vomiting, and enable one to forestall the attack.

Physiological Albuminuria.—The question of the importance of hyaline casts and of albumin appearing in the urine of apparently normal and healthy persons is one deserving of the keenest and most careful consideration. SAMUEL WEST (Lancet, Jan. 16, 1904) states that cases of albuminuria fall into two groups, depending upon whether the cause lies in the kidney itself or not. In the latter case the cause may be found in the heart or in abnormal conditions of the circulation, in blood changes or other general conditions. In a third group of cases, the urine is normal when secreted, the albumin being added to it as it passes from the kidney to the exterior. Statistics showing the frequency of albuminuria in the apparently healthy differ very widely, the out-patient practice yielding a percentage of from one to three. In conclusion the subject is summed up by the author as follows: (1) Albuminuria may occur as a transitory symptom in persons who, except for this symptom, may be judged to be perfectly healthy, for they appear to be so at the time and remain so. (2) But it may also occur in persons who, though they appear at the time to be healthy, develop signs of disease subsequently. (3) It is difficult to distinguish at a given time between those who will

remain well and those who will not. (4) It is difficult to exclude for certain many of the pathological causes to which the albumin might be due. In other words, though there may be no proof that these causes are present, there is equally no proof that they are absent and in some cases the result shows that they were not absent. (5) Speaking generally, the larger the amount of albumin in the urine and the longer it persists the greater the probability of some permanent disease. (6) Continued observation of these cases shows that the so-called physiological albuminuria does very appreciably increase the risk of life, and that this risk grows rapidly with every year of age after thirty years.

Chronic Cyanotic Polycythemia, with Enlarged Spleen.—The chief symptoms of this little known condition are constipation, headache, vertigo and weakness, although good health is not by any means incompatible with a very intense cyanosis. WILLIAM OSLEE (Brit. Med. Jour., Jan. 16, 1904) reports that he has been able to collect from the literature six cases in addition to the three which he presented at the meeting of the Association of American Physicians in May, 1903. Six were males and three females; the youngest was thirty-five years of age. The cyanosis was a most remarkable feature without any dyspnea and without obvious cause. The blood viscosity was greatly increased, unusually dark in color, and in eight of the cases, the red blood cells were above nine millions to the cubic centimeter. The hemoglobin ranged from 120 to 150, the leucocytes showing no special changes. In seven of the nine cases the spleen was enlarged, in four reaching nearly to the navel. In five of the cases pigmentation of the skin was marked. There were necropsies in three of the cases. In Cabot's case the patient died comatose with cerebral hemorrhage. In Stockton's case, the heart was normal, there was moderate emphysema of the lungs and splenic enlargement. In Saunby and Russell's case there was hypertrophy of the left vessel and great enlargement of the spleen. The possibility of the condition being due to miliary tuberculosis of the spleen has been suggested by Rosengarten. Cyanosis and polycythemia are met with in primary tuberculosis of the spleen, but it does not seem at all likely that the cases of cyanotic polycythemia are due to this cause. This belief is substantiated by the results of three autopsies in which no mention is made of caseous masses or miliary tubercles in the enlarged spleen, and moreover, the chronic course—eight or ten years in some cases—is opposed to it. It is important in studying cases of obscure cyanosis to bear in mind the possibility of chronic poisoning with the coal-tar products.

SURGERY.

An Early Symptom of Severe Appendicitis.—There is no absolute symptom which will differentiate mild from severe cases of appendicitis during the onset, hence early operation in all cases is coming more and more in favor. L. MOSZKOWICZ (Münch. med. Woch., Jan. 26, 1904) draws attention to the fact that the serious cases are generally characterized by the presence of a serous effusion in the abdomen. If all cases be systematically examined for fluid, it may be possible to divide them into those which require operation at once, and into those where delay does not matter. The best way to determine fluid is to place the left index-finger and thumb, spread apart as far as possible, upon the abdomen, and to percuss with the right middle finger upon the former, gradually approaching it to the thumb.

Operative Treatment of Tumors of the Nasopharynx.—This subject is fully discussed by E. PAYR (Archiv f. klin. Chir., Vol. 72, No. 2), who presents the following conclusions: He believes that Kocher's method, which includes the osteoplastic resec-

tion of both superior maxilla, offers the most complete exposure of the nasopharyngeal space, and is superior to the preliminary operations formerly practised. Such a complete exposure of the operative field offers the best chance for the radical removal of the growth, particularly if the latter be malignant. The technic of the procedure is not particularly difficult, when compared with the nasal, maxillary and temporal methods formerly practised. One of the great advantages is the slight degree of disfigurement caused. The functions of the parts involved are also very little disturbed. Patients usually stand the operation well and the dangers from hemorrhage and aspiration may, with proper precautions, be reduced to a minimum. He recommends that the operation be done with the patient's body at an angle of forty-five degrees, and the head allowed to hang over the upper edge of the table. Preliminary tracheotomy and the preventive ligation of both external carotids then become unnecessary. The author also suggests that where the choice of an operation depends on the vascularity of a nasopharyngeal polyp, the examination should be conducted with the head hanging down. The modified position has been used by the author with great success, not only in this, but also in other operative procedures in the nose, mouth or pharynx.

Relief of Various Forms of Hernia.—According to O. HORWITZ (Proceed. of Phil. County Med. Soc., Jan. 30, 1904), the safety of the patient, as well as the lowering of the mortality in strangulated hernia depends on gentle taxis being exerted for a short period, which, if unsuccessful, should be succeeded by an immediate operation. Herniotomy in the aged is not a dangerous operation, provided it is performed as soon after the constriction has taken place as possible. An inflamed hernia should not be treated by taxis, but by operation. No one method of attempted radical cure is applicable to every variety of rupture. The Bassini is suitable to the largest majority; the Bloodgood for those in whom a large abdominal ring and weak or atrophied conjoined tendon exist. The relief of special forms and conditions must be met by the ingenuity of the surgeon. The palliative operation is applicable to a large number of selected cases of reducible hernia, when the protrusion cannot be kept within the abdominal cavity by means of a truss, and also in some cases of incarcerated hernia. A radical cure may be safely attempted on patients who have reached their sixth year, and on those who have arrived at their sixtieth. Individuals who submit to the palliative operation should continue to wear a truss after recovery. In cases not applicable to a routine method, the best means of removing the entire neck of the sac on a level of the parietal peritoneum should be used. Then the opening in the peritoneum must be firmly closed, the depression of the peritoneum in the vicinity of the internal abdominal ring obliterated, the structures brought into apposition, and the apertures closed which form the canal through which the rupture protrudes. An aseptic result is necessary for a permanent cure. In cases of undescended testis, every effort should be made to save the organ. The method of operating for umbilical hernia, suggested by Mayo, is probably the most satisfactory. Absorbable sutures are preferable in all cases.

Gall-bladder Surgery.—It had seemed from the recent publications of Kehr and of others that one of the greatest advances in surgical technic was the extirpation rather than the simple drainage of the gall-bladder. This conviction will be rudely shaken by an article of MAURICE H. RICHARDSON (Bost. Med. and Surg. Jour., Feb. 11, 1904), which might almost be called "cholecystostomy vs. cholecystectomy." The paper is based on 200 operations, and many additional ob-

servations. As regards the dangers of the two operations, the author is of the opinion that in unchanged or in slightly changed gall-bladders, they may, in the hands of experienced operators, be considered very slight; on the other hand, in the case of thickened, contracted, adherent, gall-bladders, the dangers of either operation are very considerable. Leaving aside the element of danger, then, which perfection in technic tends to render more and more equal, the operations may be compared as to their immediate and remote effects. Richardson is of the opinion that "drainage of the biliary passages is the one great benefit to be gained by the operation on the biliary passages, whatever may be the lesion for which the operation is undertaken." If now, the gall-bladder be excised, drainage must be performed through the hepatic duct. This necessitates a far larger incision and longer operation, a much less copious drainage, and imperils the subsequent integrity of the ducts through the danger of ulceration, necrosis and cicatrization. It seems logical to conclude, therefore, that cholecystostomy is preferable to extirpation. As regards the remote effects, the chief question to be considered is that of reformation of stones in the diseased gall-bladder. The author is firmly of the opinion that stones are practically always formed in the gall-bladder and never in the intrahepatic ducts; it is a tempting prospect, therefore, to remove the *fons et origo mali*. Clinical experience, however, has taught him that only in the rarest instances are gall-stones reformed either in the bladder or the duct after cholecystostomy followed by a period of drainage. The argument seems, therefore, overwhelming in favor of cholecystostomy, and against extirpation.

Genito-urinary Tuberculosis.—Honesty and thoroughness are the earmarks of the work done in the Johns Hopkins Clinics, and these qualities are conspicuous in a recent article on genito-urinary tuberculosis by GUY L. HUNTER, assistant in the Hospital to Prof. Kelly (Bull. Johns Hopkins Hosp., Jan., 1904). The report is based on 35 cases, all of which were operated on. The average age of the patients was 31½ years, showing that the disease is one of young adults. The previous history revealed that four of the cases had had earlier symptoms of tuberculosis in other regions—joints, glands, abdomen, or lungs. Within the genito-urinary tract itself the infection is generally primary in the kidneys, as shown by the clinical and pathological findings. Nevertheless, it is a striking fact that in fully one-half of the cases the earliest characteristic symptoms are produced by the bladder, owing to the secondary infection of that viscus. The disturbances and symptoms due to tuberculosis of the kidney when confined to that organ are generally vague and difficult to recognize. The disease may easily be confused with malaria or typhoid, on account of the general symptoms and the temperature curve, or with appendicitis, gall-stone colic, movable kidney (Dietel's crises), and so forth, on account of the subjective symptoms. "Any symptoms referable to the urinary tract" may mask a true renal tuberculosis. The diagnosis depends on the palpation of the enlarged kidney through the abdomen, and of the thickened and tender ureters through the vagina. It may be completed by a cystoscopic and bacteriological diagnosis. Opposed to the difficulty in diagnosis, is the comparative ease in treating the cases, provided they present themselves early enough. The entire problem for the surgeon is the extirpation of the infected tissue—kidney, perhaps ureter, or even part of the bladder. The fact that the disease is generally primary in the kidney, and is in the vast majority of cases localized to one side tends to make this effort quite feasible, and gives a good

prognosis for radical operations, as is demonstrated by the records of the cases treated at Johns Hopkins.

Partial Enterocoele.—This condition is as interesting as it is rare. Its etiology is still undetermined. Whether it begins from a false diverticulum or always acutely, as in accidental strangulation of some portion of the wall of the small intestine, is an unsettled question. Lucius W. HORTCHISS (*Ann. of Surg.*, Feb., 1904) states that it is a form of strangulated hernia which is most dangerous because of the absence of typical symptoms. The hernial sac is generally small; its contents, a portion of intestinal wall or, rarely, omentum. Under the typical conditions of small aperture and unyielding margins, the strangulated portion of the gut wall soon loses its vitality, and perforation and peritonitis may ensue before the case assumes characteristic evidences of gravity. Although occasionally a typical hernia may have existed, most frequently the lesion consists in a very small, often unnoticed swelling which after an unusual exertion becomes painful. There can of course be no intestinal obstruction in the early and dangerous portion of the disease. Pathologically it is usually characterized by involvement of that portion of the gut which is opposite the mesenteric attachment. Adhesions between the gut and the neck of the sac protect the general peritoneum for a short time, but this barrier to peritonitis is extremely frail. The author then reviews six cases to illustrate the lack of uniformity in the symptoms and the absence of any single pathognomonic sign for early diagnosis, and, finally, the great disproportion between the severity of the earlier symptoms and the real gravity of the case.

Results of Oophorectomy for Mammary Carcinoma.—Although a well-known surgeon has said that he had not the courage nor the faith to propose this operation for inoperable mammary carcinoma, the results of its employment appear to justify the belief that he was in error. G. E. HERMAN (*Lancet*, Jan. 16, 1904) recites the recent history of a case which was published in the *Lancet* six years ago. The carcinoma under discussion was removed in 1890. At the end of 1896 it had recurred, invading the axilla and neck so extensively as to be absolutely inoperable. In 1897 the ovaries were removed. Six months later none of the recurrent growth could be felt. The patient remained in good health for four years when she began to develop repeated sweats and low-grade temperature manifestations. A month later she had an attack of pain in the left kidney so severe as to necessitate the use of morphine. Shortly after this she began to suffer from epigastric pain after taking food, vomiting commenced and her feet became edematous. There was no albumin in the urine, nor fluid in the abdominal cavity. Three months later a little blood was present in the urine. Dyspnea became marked, retention of urine subvented and the patient died shortly after. No autopsy was made, but there can be no doubt that she died of recurrent abdominal carcinoma. Whatever criticisms may be made upon the technic of oophorectomy in these cases, it is self-evident that through its agency this woman was granted 4½ years of active and healthful life. The cases in which, up to 1900, oophorectomy has been performed have been collaborated by Stanley Boyd. The broad result which they show is that in about one-third of the cases the patient obtained "more or less marked benefit." This benefit consisting of retrogression of the cancer and a period of a few months or years of good health. This is too much to be accounted for by chance. The objections urged against the operation are three: (1) The immediate risk to life. This, in competent hands, is exceedingly small. (2) The temporary suffering caused by the operation. This is not, however, to be compared with the possibilities of

ultimate benefit. (3) The effect of removal of the ovaries on certain functions. This, in the case of a patient doomed to die from carcinoma at no very distant date, is not worth considering. As opposed to these objections the patient can faithfully be told that there is one chance in three that the disease will retrogress and that she will have some months or perhaps some years of good health. It seems highly probable that the future of the operation is assured.

PHYSIOLOGY.

Physiological Action and Solution Tension.—The efforts to attribute physiological action to physical rather than to chemical characteristics are strongly supported by the result obtained by A. P. MATTHEWS (*Amer. Jour. of Physiol.*, Feb. 1, 1904), who finds that the poisonous action of any salt is a function of both ions and varies inversely with the sum of the solution tensions of the ions, i.e., with the decomposition tension of the salt. The physiological action of any ion or atom(?) is, hence, determined by its solution tension, or its affinity for its electrical charge. Mercury, silver and copper are poisonous because they part with their charges to the protoplasmic particles easily, thereby bringing about changes in the state of aggregation of the colloidal particles, and decomposition of the molecules, in other words, physical and chemical changes leading to movements, and so on.

The Physiology of Unstriated Muscle.—Of extreme interest in itself and in its general relation to the knowledge of the phenomena that underlie the vital manifestations of the contractile tissues, is the painstaking research pursued for many years by P. SCHULTZ (*Archiv f. Anat. u. Physiol.*, Nov. 27, 1903), and just completed. If the contraction-curve of smooth muscle, such as that from the frog's stomach, be studied, it will be found to graphically represent two processes, contraction and relaxation, both of which are active manifestations. The intensity and speed of the former are increased by increased strength of stimulus, rise of temperature, increased tension, and repetition of stimulus; they are diminished by fatigue, lowering of temperature and reduction of the strength of stimulus. In studying the variations to which the relaxation-phase of the muscle-curve is subject, the author finds that it consists of two parts: In raising the strength of the stimulus it is noticed that after the muscle has reached its height of contraction, the relaxation that follows is at first rapid, represented by a steep line, and then slow and gradual, represented by a line much longer and more inclined. These two stages of the relaxation were separately studied. They represent together antagonistic forces; the first corresponding to the effort of the muscle to return to the norm, the second corresponding to the effort of the muscle to keep up a portion of its contraction. The first would, therefore, be the real relaxation-phase. Its speed is increased by increased strength of stimulus, rise of temperature, increased tension, and overloading; and diminished by reduction of stimulus and of temperature. The second, gradual stage of the relaxation evidently represents a process inhibiting the first rapid stage. Moreover, the original contraction does not fully disappear; there is really left a remnant of the contraction, which is usually described as the condition of tonus. The incidence of this tonus depends upon two factors. First, there is neurogenic tonus, which is the influence normally exerted by the nerves on the visceral muscle. Second, there is a condition of muscular tone which is original in the muscle, which may be termed "substantive" tonus. This latter remains even after the former has been abolished by atropine poisoning. To this original tonic property of the muscle must be attributed the

second, slow, gradual stage of the relaxation-tracing. By means of small weights attached to the muscle for a long time, this tonus may be overcome, but greater weights applied for a long time bring it again into play. Even after the muscular tone has been abolished in the former case, if a maximal stimulus be applied, the muscle will contract and the original tonus will reappear. Similar stimuli applied after this evoke a stronger contraction. It appears that the purely physical phenomena of tension and shortening, through loading and unloading, are bound up with the physiological events associated with the contraction. With the condition of passive tonus the author contrasts the muscle contraction as an active phenomenon, which is bound up with the condition of neurogenic tonus.

The Esophagus in Deviations of the Vertebral Column.—It has been generally supposed that the position of the esophagus was more or less affected by scoliotic or kyphotic displacements of the vertebral column. W. JAWIN (*Archiv f. klin. Chir.*, Vol. 72, No. 2) has determined in a number of careful autopsy examinations that this is not always the case. He found that the aorta and other vessels which are attached to the column by their branches, closely follow the bendings of the same. The trachea is affected to a lesser degree. Where the esophagus lies behind trachea and the arch of the aorta it may be bent in the sagittal and frontal planes. Below the bifurcation it leaves the column and passes over the curvature (like the string of a bow). The exceptions are seen in those cases where the connective tissue lying back of the esophagus has become fixed and rigid owing to the action of a pathological process such as a pulmonary tuberculosis or a tuberculosis of the mediastinal glands.

NEUROLOGY AND PSYCHIATRY.

Permanent Cures of Jacksonian Epilepsy.—There were two cases of traumatic Jacksonian epilepsy reported in 1896 as cured by operation done five years previously, which have repeatedly figured as favorable cases in various statistics. A further report is now made by G. ENGLEHART (*Deut. med. Woch.*, Jan. 21, 1904), who states that one of the patients has remained cured to the present, twelve years after operation. The other patient had seizures at long intervals for three years, and was then free for two years. They then came on again and in two years became so severe and frequent that the patient was driven to suicide.

The Relation of Syphilis to Tabes.—An interesting communication on this subject is presented by F. LESSER (*Berl. klin. Woch.*, Jan. 25, 1904), in which he protests against the theory that syphilis is the active agent in the production of this disease. In many cases the patient's statement is alone relied upon in taking the history. Syphilis is very widely distributed, and the same proportion of involved individuals would probably also be found among a series of pneumonia or tuberculous cases. He believes that a more definite anatomical basis should be gained by a sufficiently large number of autopsies in tabetic subjects. Absolute signs of a previous syphilitic infection may be difficult to demonstrate, but the investigation should determine, as far as possible (1) in what proportion of necropsies on tabetics well-marked anatomical evidences of syphilis are present, and (2) in what percentage of all autopsies done in persons over thirty-five years old syphilis can be demonstrated. A comparison of these percentages should lead to some conclusion. Among a series of 96 cases of tabes tabulated by the author, syphilis was definitely demonstrated at autopsy in 27 (=28 per cent.). Post mortems in all other cases over the age of thirty-five years showed syphilis to have been present in 9.5 per cent. This shows

that there is a certain etiological relationship between tabes and syphilis in a certain proportion, but not in all cases, for it is by no means proven that every case of tabes was preceded by syphilis. In those cases where there is some connection with syphilis, the question remains whether the disease is directly a syphilitic one, and with what stage of the latter can it be compared? To the secondary and tertiary manifestations, as ordinarily considered, the author proposes the addition of a third class—interstitial inflammations or quaternary manifestations. The latter consist of interstitial proliferations and parenchymatous degenerations of the internal organs, which run a chronic course in the later years of the patient's life, never heal, and do not react to either mercury or iodine. He considers that in the majority of cases this stage succeeds the tertiary gummata, but as it does not cause any symptoms, remains undiscovered during life. The histological changes in tabes consist essentially in parenchymatous degeneration of the nervous elements of the posterior columns of the cord and proliferations of the connective tissue elements, the neuroglia. This interstitial inflammation may be considered the primary pathological process and corresponds closely with the manifestations of the quaternary syphilis already mentioned. The author believes that the various theories advanced against the syphilitic nature of tabes can be readily explained by accepting this proposition. These objections he discusses as follows: (1) It has been claimed that mercury and iodine are without therapeutic effect in tabes, whereas they exhibit a well-marked specific action in the presence of syphilitic lesions. As already shown, however, tabes is neither a secondary nor tertiary manifestation of syphilis, and it is known that the later interstitial inflammations which accompany the form designated as quaternary, are not influenced by either of these drugs. Clinically, however, it is almost impossible to decide in any given case whether the tertiary or quaternary form is present, and the effect of specific treatment should first be tried—in case it fails, to be immediately abandoned, as it otherwise produces harm. (2) In most cases of tabes no evidences of syphilitic disease of the skin or viscera can be detected, and conversely in uncommonly severe cases of syphilis no tabetic affection of the cord can be proven. He explains this by assuming that syphilis is a bacterial contagious disease, as apparently well supported by clinical and pathological evidence. This irritation governs the intensity as well as the intensity of the resulting reaction in the organism. The latter is most effective at the appearance of the secondary manifestations and weakest when the quaternary stage comes on. If the virulence of the infectious agent persists for a prolonged period, the secondary stage will be extended and the quaternary manifestations correspondingly delayed. For this reason the cases in which marked ulcerations are present, and where the virus remains too virulent to produce merely interstitial inflammation, remain free from tabes. And in those cases where quaternary symptoms appear and the virus is consequently diminished in power, are not afflicted with gummatous processes of the skin and internal organs. These facts are supported by clinical evidence, for the coincident appearance of tabes and tertiary manifestations are of the greatest rarity. In certain regions, moreover, where syphilis assumes a very virulent form, marked by ulcerations and destruction, tabes remains practically unknown. The author also found that in these sections, autopsies rarely disclose the presence of any quaternary evidences of syphilis. (3) Considering the great frequency of syphilis and the comparatively rare appearance of tabes, any connection between the two diseases has been doubted. This contention is not well founded, because we can only

consider tabes as a localization of the quaternary manifestations in the spinal cord. Assuming that among 100 cases of syphilis, tabes occurs only once, this does not deny the syphilitic nature of tabes, for among this same number of cases it may be found that a gumma of the elbow is only present in one. The disease is likely to appear in one than in many localities in its later manifestations. (4) It has been claimed that tabetics are subject to syphilitic infections, and are not immune. It is proven in numerous other instances, however, that persons which present tertiary symptoms may become reinfected and that the immunity against syphilis is a limited one. The delayed appearance of the quaternary symptoms renders the absence of immunity and consequent reinfection even more probable. (5) Finally it has been asserted that tabes is a localized rather than a systemic disease, and that this is contrary to the usually entertained conception of syphilis. Interstitial syphilitic lesions are characterized, however, by their predilection for certain localities in particular organs, in the liver, testis, tongue, and likewise the cord—in the latter instance in the posterior columns. Such manifestations in other organs are considered part of a systemic disease. Why not, he asks, in the spinal cord? Another interesting fact to which the author calls attention is the apparently close connection between tabes and aneurisms. Autopsies in the latter class of cases have demonstrated the presence of syphilis in about 26 per cent, usually in the form of the interstitial, quaternary manifestations. Moreover, among 96 cases of tabes, aneurisms were found in 18—about one to five. He concludes that both lesions are due to the same primary cause, the quaternary lesions of syphilis.

OBSTETRICS AND GYNECOLOGY.

Prolapse of the Placenta.—This condition, where the placenta is normally situated, is quite unusual, and the case reported by F. KAYSER (*Archiv f. Gyn.*, Vol. 70, No. 3) is, therefore, of interest. The patient had a markedly rachitic narrow pelvis, but at the first examination no other abnormal conditions were found. Later on another examination revealed the placenta at the os. Assuming that a placenta previa was present, combined version was performed, and the foot pulled down into the vulva. After a period of fifteen hours, during which there were practically no pains, the patient suddenly went into collapse. The cervix was then incised and extraction immediately completed—perforation being necessary in order to deliver the after-coming head. During this procedure the woman died. The uterus was found to be enormously distended with blood, and the autopsy showed that the placenta was normally attached at the fundus. This phenomenon in connection with prolapse of the placenta is very unusual, but serves as an indication of the necessity for immediate ending of the labor in cases of such character. He does not think that version is advisable, and believes that the delay in extracting the after-coming head was responsible for the extreme hemorrhage. The delivery should, therefore, be cranial, using forceps if necessary.

Statistics of Tubal Pregnancy.—Based on a series of 233 cases observed at the Charité in Berlin, E. RUMKE (*Archiv f. Gyn.*, Vol. 70, No. 3) presents the following views as to the etiology, pathology and treatment of this condition. He thinks that the main etiological factor in the production of a tubal pregnancy is a chronic gonorrhea or a puerperium which has run a pathological course. Nulliparae do not prove an exception to the process, however. A tubal pregnancy is often preceded by a period of greater or less sterility. Tubal abortions and rupture occur most commonly during the first three months of pregnancy. Operative interference need

only be considered (1) when symptoms dangerous to life are present, (2) when there is a distinct increase in the size of the tumor, (3) when the general condition is getting worse or a resorption of the tumor does not take place, (4) when the temperature continues high. The best operative procedure is laparotomy, and drainage of the abdominal cavity should not be practised. Unless disintegration of the coagulated masses of blood has taken place, only those which can be readily reached should be removed. Interference should not be postponed until the fetus has reached a viable age. When hematoceles are present, they should be treated in a conservative manner. Operation is only indicated by particular conditions, and should be done by means of a posterior vaginal section. Laparotomy should be reserved for those cases where the tumor is very large or difficult of approach by the vaginal route.

EYE, EAR, NOSE AND THROAT.

Labyrinthine Suppuration.—An otitis media may spread to the internal ear by way of preformed passages or by new channels, but the most common route is either the fenestra rotunda or ovalis, according to E. P. FRIEDRICH (*Münch. med. Woch.*, Feb. 2, 1904). These orifices are normally protected, but it frequently happens that the operator unintentionally removes the plate of the stapes, or that this bone and the ligaments are completely destroyed by suppuration. The most common sites of artificial communication are the ampullary tubercle of the horizontal semicircular canal and the promontory. In all cases, however, an osteitis results, which spreads unevenly over the greater part of the labyrinth. Round-cell infiltrations are found upon the vestibular side of the stapes, and on the inner side of the membrane of the round window; later connective tissue with lime infiltration will be formed here. Ultimately the endolymphatic system will be invaded, but primary disease here is rare. All the cases observed died of suppurative meningitis, which is best explained by the communication between perilymphatic and subarachnoid spaces, through the aqueductus cochleæ. The sheaths of the acoustic nerve may act in the same way, but the endolymphatic duct is of less importance, since the perilymphatic space is always diseased first. Sometimes the meningitis develops through the agency of an extradural abscess, when the labyrinthine caries brings about defects on the inner side of the organ.

THERAPEUTICS.

The Efficiency of Persodine in Phenol Poisoning and Intestinal Auto-intoxication.—The various inorganic sulphates have been administered per os in carbolic acid poisoning with the view of promoting the formation of a non-toxic sulpho-compound of phenol. G. BUFALINI (*Arch. Ital. de Biologie*, Nov. 21, 1903), preparatory to his own investigations in reviewing the results of other experimenters, finds that Marfori has preferred the use of ammonium sulphate administered hypodermically, in order that the ammonia, instead of increasing the alkalinity of the blood, might be eliminated in the urine as urea. The author experimented instead with a substance known as persodine, and found in commerce in the form of small pastilles, which is merely a triturated mixture obtained from the solutions of persulphate of sodium and of ammonium by a special process. This was administered to rabbits hypodermically after a toxic dose of phenol had been given, with the result of overcoming this toxicity. The author alludes in this connection to the researches of Boix and Noe, who found that the prolonged administration of hyposulphite of soda does not attenuate the effect of intraperitoneal injections of phenol, and concluded that this result would

not justify the use of the former drug in cases of intestinal putrefaction, for which it is largely used. The author does not pretend to have proved absolutely the power of persodine as an antidote for phenol, but he claims that this substance, by facilitating the formation of sulpho-compounds, will prove valuable for the neutralization of intestinal toxins (phenol, indol and skatol), which are frequently the cause of serious troubles. Moreover, the alkaline persulphites are valuable aperients, improve the appetite and increase the weight.

New Galactagogue.—Some twenty years ago cotton seed was advocated for this purpose by a number of German observers. More recently THEO. ZLOCIST (Berl. klin. Woch., February 1, 1904), has again taken up this subject and presents his clinical experiences. He administered the cotton-seed meal in a purified form and freed from the indigestible cellulose constituents, to twelve nursing women, who had an insufficient supply of breast milk. None of the patients manifested any objections to taking the substance, and no digestive disturbances were noted. The effects became noticeable in from three to four days after the administration was begun, after some 25 to 30 grams had been given. The quantity and quality of the milk was apparently increased, as the infants in question did not require any supplementary feeding. The breasts also increased in size and became distended; a diminution in the supply only occurred after the substance had been omitted for several days. During the later periods of lactation about double the quantity was required to produce the proper effect. This preparation is known as "lactagol," and the author considers that it is a very efficient aid when other hygienic measures fail.

Properties of Lily-of-the-Valley.—It is not desirable to substitute convallamarin for lily-of-the-valley, since D. LAIGRE (Rev. de Therap. Med. Chir., Nov. 15, 1903) has found that while the tonic action on the heart is about the same with both, the diuretic properties are in great part to be attributed to the fresh convallarin. Unfortunately the drug varies considerably in strength, depending upon the quality of material employed, the use of heat in the manufacture of the extract, and other unknown factors. It is for this reason that a constant pharmaceutical preparation in the form of the juice of the fresh plant is recommended. It contains 2.25 grams of convallamarin and 1.2 grams of convallarin per kilogram; possesses all the physiological properties of the plant itself, and may be employed in doses of 5 to 15 centigrams, gradually increasing by 5 centigrams.

A New Soap for Disinfection.—T. WESTHOFF (Therap. Monatsheft, Jan., 1904), believes that the only safe soaps for surgical use are those containing some gritty substance for mechanical disinfection. The reason why those on the market are so unsatisfactory is because they contain carbonate of lime, which, when viewed under the microscope, appears as large, irregular crystals with sharp projecting angles that are very apt to produce slight abrasions in which the germs can easily lodge. The new soap has for its base silicic acid which occurs in much finer subdivision and leaves the hands soft and smooth even after prolonged use. Other ingredients are sodium soap, wax, lanoline borax and stearine. Bacteriological examination gave a much greater freedom of germs than with other soaps, and a number of experiments with aniline dyes proved that the upper layers of the epidermis are indeed removed.

Theocin as Diuretic.—Theocin or theophyllin and its salts forms a most interesting group of diuretics with purely renal action, and if used properly, must be regarded as a valuable addition to our patent drugs. L. ALKAN and J. ARNHEIM (Therap. Monatsheft, Jan., 1904) can record a truly remarkable flow of urine in

all dropsical conditions after the first few doses; it requires only a short time, however, for the renal cells to get accustomed to the drug and soon the same small amounts of urine as formerly are voided. If no other diuretics and cardiac stimulants are given, they will be much more effective than before. The following rules may be laid down: In chronic interstitial nephritis, a varying amount of functioning tissue is still present, especially in the protuberances of the surface. Here it is best to start diuresis with one or two daily doses of theocin and to give calomel or digitalis as soon as the embarrassed circulation is relieved. In general renal congestion, theocin would only increase the beginning parenchymatous degeneration of the cells, hence digitalis must be given first, to allow the cells to recover. In acute inflammations of the kidneys, theocin is decidedly contraindicated. The usual dose is 5 grains every two hours for 3 or 4 doses.

Treatment of Typhoid with Serum.—At the present day, when the most sanguine articles on serum treatment of disease alternate with equally pessimistic ones, a sober, critical article, such as that of D. DU MESNIL DE ROCHEMONT (Therap. Monatsheft, Jan., 1904), is doubly welcome. The serum of Jezz, obtained from thymus, spleen, bone-marrow, brain and spinal cord of strongly immunized rabbits was employed, since there is every reason to believe that the antibodies are produced in these organs. Wonderful cures cannot be reported, but the author thinks that in every case the course was modified and rendered milder, though not shortened. The fact that typhoid germs could be cultivated from the blood and that a relapse occurred after large doses had already been given, speaks against a strong bactericidal action. Further tests are, however, necessary, especially in epidemics of varying severity.

Ninety Million Dollars for Typhoid Fever.—In his address on the Water Supply of Cities before the Michigan Municipal League, Dr. Victor C. Vaughan, dean of the medical department of the University of Michigan, pointed out the loss to the country every year from typhoid fever. "There die in this country every year," he said, "from typhoid fever alone not less than fifty thousand people. There are sick in this country not less than five hundred thousand people from this same cause. To get down to dollars and cents, which is the American way of figuring everything, say each man is worth one thousand dollars—and it was estimated in the days of slavery that a man was worth one thousand dollars. It is estimated also that it costs on an average, one thousand dollars to bring a child from the cradle down to the time that he is able to support himself. Say that the average human life is worth a thousand dollars. Then with fifty thousand deaths from this disease, we are losing by death alone, fifty millions of dollars. But there are five hundred thousand people sick. Then we will say that the time of each one of these individuals is worth a dollar a day. Besides that there must be at least one nurse, and we will suppose that these services are worth one dollar a day. Then for each day that those five hundred thousand people are sick, the people of the United States are paying one million dollars. And forty days is certainly an average duration for typhoid fever. Then, with this forty million and the fifty millions loss by death, it is interesting to note that the people of the United States are paying a tribute of ninety million dollars to our ignorance for the existence of a disease which, if every man did his duty, would not exist at all."

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KALK METASTASEN.

It is perhaps a reminiscence of the alchemistic tradition in medicine which ever and again directs the researches of the physiological chemists to the discovery of some vital or essential salts in the body. At one time, quite late indeed in the nineteenth century, phosphorus had become all important: "Ohne Phosphor kein Gedanke," said the German brain physiologists of that day. Still later, iodine usurped the dignity, and pharmaceutical "iodo-" preparations of every variety became legalized. But the most important and interesting phase of this problem has been opened up by the recent investigations and theories of Prof. Jacques Loeb and his pupils, which are too well known to need rehearsal.

Amid the flux and reflux of opinion certain facts stand out with increasing definiteness, and of these not the least remarkable is the significance of the calcium salts in the animal economy. They circulate in the blood; according to an accepted theory they play an essential part in the clotting of that fluid; they enter into the reaction which results in the formation of the acid of the gastric juice; and, finally, in the more subtle vital relations investigated by Loeb they have been found to possess most powerful and peculiar properties.

To the clinician they appear under a variety of forms, chiefly as calculi, or as a part of calculi, in the gall or urinary bladder, and also as the offender in the arteriosclerotic processes of the body. Virchow long ago appreciated the importance of calcium in pathological processes; indeed, one of the most interesting of the many generalizations which he founded was that of the calcium equilibrium, from the pathologist's standpoint, in the human body. This led him to the theory of "Kalk Metastasen," since he observed that in cases of certain forms of bone disease, e.g., tumor, which induced a large amount of bone rarefaction and absorption, calcium salts were laid down in certain viscera of the body which, except under such conditions, practically remained free from them; for example, stomach and lungs.

As may be imagined, this theory has not failed in the course of years to awaken opposition, which has, however, been rather timidly expressed. In the last number of the *Journal of Pathology and Bacteriology* there is a very full and detailed consideration of the whole question by Beer, based both upon the previous literature and much original material. From this article it would seem impossible to avoid the conclusion that "Kalk Metastasen" in Virchow's sense, do not really exist. In other words, the deposition of calcium would seem to be governed by some other factor than its mere excess in circulation. Weigert, it will be remembered, held that lime deposits were caused by purely local conditions, such as low vitality of the tissues. Again, it has been suggested that there is a calcium diathesis, like the supposed uric acid diathesis of the gouty. Be this as it may, the fact remains that the entire problem well deserves to be investigated and ventilated afresh, from a modern standpoint and with modern methods, and this is a work in which physiologists and chemists may share, and from which they may also expect to reap large benefits.

THE EOSINOPHILIC LEUCOCYTE IN SEPTIC INFECTIONS.

EVER since blood examination has become a routine measure in the clinical laboratory the expectation has been general that the diagnosis of obscure septic conditions would some time be rendered less difficult through the discovery of some characteristic factor.

For a number of years an increased leucocyte count was viewed in this light, but very soon it was learned that septic conditions could occur in which the actual number of the leucocytes was

not increased, and that even normally the total number could vary within fairly wide limits. Hyperleucocytosis, to be sure, was the rule, but the surgeons especially were not infrequently confronted with normal and even subnormal counts where operation could definitely prove the existence of suppurative processes. For a while the literature on the value of blood examination in the diagnosis of septic conditions abounded in polemical expositions, in which, on the part of certain surgeons especially, there was very little manifestation of graceful courtesy, and less of laboratory education. It was calmly suggested that the laboratory worker had no place at the bedside.

And what is the result of the strife? The laboratory worker still counts the leucocytes of the patients, but he does more. He makes a differential count, and with the introduction of the differential count a new factor becomes apparent in septic conditions. It is now ascertained that in all septic conditions there is an increased percentage of polynuclear neutrophilic elements and that the mononuclear leucocytes are relatively decreased. The recognition of this fact marks a distinct advance in the clinical value of blood examinations, as the relative increase of the polynuclear neutrophiles is manifest even in those septic conditions in which there is no actual increase of the total number of the leucocytes.

The increase of the polynuclear neutrophiles, however, is at times but little above the maximum normal, so that doubts can still arise whether or not a septic condition exists. An advance beyond this point has thus far not been made. This is peculiar in view of the fact that every laboratory worker must surely have noted the constancy with which the eosinophiles are diminished or absent in all septic conditions, using the term in the widest sense of its meaning. The text-books on hematology are silent on the significance of this fact; the diminution of the eosinophiles is noted, but is not commented upon. In the past the increase of the eosinophiles in various pathological conditions has received the attention of the laboratory worker but not their decrease. For the future we should urge the recognition of the undoubted fact that in all septic conditions whether associated with an increase of the total number of the leucocytes beyond the normal, or not, there goes hand in hand with a more or less marked relative increase of the polynuclear neutrophiles a distinct relative decrease of the eosinophiles, if indeed

they are not absent altogether. So far as infection with the common pus organisms is concerned, viz., the various staphylococci, and streptococci, as also with the pneumococcus, the typhoid bacillus and the diphtheria bacillus, this rule is without exception. We should urge upon the surgeons the recognition of this fact and can then hope that in the future normal appendices are removed less frequently than is now unfortunately the case. On the other hand, we should emphasize the necessity of the differential leucocyte count by the general practitioner in all obscure cases of abdominal pain.

SOME FACTS ABOUT COLLEGE ATHLETICS.

If one were in quest of a refutation of the oft repeated fallacy that college athletics were injurious to the participants; that such strenuous efforts on the part of the flower of our youth tended to diminish their intellectual vigor and brutalized them; that the great expenditure of nervous force and energy exhausted these young athletes and rendered them unfit for their life-work; or that they prematurely die of heart disease or consumption, one has simply to go over a recent article by Dr. George L. Meylan, new director of the Columbia Gymnasium, contributed to the *Harvard Graduates' Magazine* on Harvard University oarsmen.

In dire prognostications relative to these evils and the fostering effects of college athletics too often has the solitary swallow been made to bear the whole burden of a summer's rhapsody. The isolated examples of early death have been quoted as "I told you so's" by many physicians who have never had presented for their consideration any series of observations of sufficient breadth to warrant any conclusions. We as physicians should be the last to countenance college athletics if it can be shown that they uniformly work injuriously, but apart from the well-known tendency in some directions, to develop excessively along isolated lines, the medical point of view has coincided with the conclusions reached in Dr. Meylan's studies.

Having been led to an investigation of the subject by the assertion of a former Harvard oarsman that all the men who had been in his boat had died young, Dr. Meylan went over the records and found that the former oarsman suffered very severely from a bad memory and that instead of premature deaths among Harvard oarsmen excellent longevity and an increased expectation of life was the rule. Rowing has al-

ways been considered one of the best of the forms of athletic exercises, and in passing we would like to suggest to Dr. Meylan that he make a similar study for track athletics, a form of exercise, especially in the short runs, that is viewed with suspicion by even the broadest of your cult.

As to results: From 1852 to 1892, 152 different men were on record as having rowed on the Harvard Varsity crew, 123 were living, nearly all of whom were personally seen by Dr. Meylan. Thirty-two races had been rowed, with crews of 4, 6 and 8. The average age of these rowers was twenty years. In order to arrive at some standard of comparison the expectation of life tables of our large insurance companies were consulted and these showed that the total number of years of life of these oarsmen was 346.08 as compared with 337.6 the number that they might be expected to live.

Dr. Meylan then presents an extensive table including all the oarsmen and comes to the conclusion that Harvard oarsmen do not die prematurely and that they live longer than healthy men accepted by life insurance companies.

Referring to the causes of death in 32 oarsmen he finds that 6 were killed in the Civil War, one was run over by a railroad engine, and another met his death in a carriage accident, 2 died of heart disease, 3 of pneumonia, 2 of apoplexy, 2 of paresis, 1 of cancer, 1 of phthisis, 2 of Bright's, 1 of alcoholism and 1 of tropical climate. In ten the cause of death could not be ascertained with definiteness, but direct relationship of athletics to the death could not be traced.

It is interesting that of the survivors not one has made a failure in life. Five only occupy subordinate positions, the names of the rest are to be found among the most noteworthy of this country's citizens. At least ten per cent., who have been out of college fifteen years, are to be found among the list of eminent men. Certainly a sufficient refutation on the "brutalizing" tendencies of college athletics.

We would welcome other studies of selected groups that our notions concerning college athletics might be furnished and put in order, as this paper of Dr. Meylan's has contributed to do for rowing at our oldest American university.

Eastern Medical Library Opening.—The Eastern Medical Society of the City of New York opened its library and club-rooms in Clinton Hall, 151 Clinton street, last Tuesday evening. Addresses were delivered by Dr. Abraham Jacobi, ex-Justice Julius M. Mayer, Dr. Kenneth W. Millican, and Dr. Joseph D. Bryant.

ECHOES AND NEWS.

NEW YORK.

Medical Association of Greater New York.—The next regular monthly meeting will take place Monday, March 14, at the Academy. The following program has been announced: (1) Observations on Dilatation of the Stomach and on Gastropnoia, by Robert Coleman Kemp, M.D.; (2) The Consultant's Point of View, by William H. Thomson, M.D.; (3) Gastro-diaphany (Trans-illumination of the Stomach), by Max Einhorn, M.D.; (4) Dilatation of the Stomach, by George R. Lockwood, M.D.; (5) Gastropnoia, by Achilles Rose, M.D.; (6) The Surgeon's Point of View, by Robert H. M. Dawbarn, M.D., and George E. Brewer, M.D.; (7) Relation of X-ray and Radio-active Solutions to Examination of the Stomach, by Sinclair Tousey.

Site for Bellevue Training School.—The Bellevue Training School for Nurses has bought, for about \$50,000, the property, 423 to 431 East Twenty-fifth street, a plot 125 by 100, and will erect thereon a six or seven story building to be used as a training school and nurses' home. The school heretofore has been quartered in some three and four-story buildings on Twenty-sixth street immediately at the rear of the site just purchased. These old structures will be used in connection with the new building, and it is said that the latter may eventually be extended over the entire property.

New York Academy of Medicine.—The Section on Medicine will meet next Tuesday evening, March 15, at Nos. 17-21 West Forty-third street. The following is the program: (1) Presentation of Cases and Specimens: Trichinosis, by Wm. B. Noyes, M.D.; (2) Clinical Reports: Two Cases of Cerebrospinal Meningitis Cured by Intraspinal Injection of Lysol, by Morris Manges, M.D.; (3) Papers: (a) Feeding in Tuberculosis, by John B. Huber, M.D.; (b) On the Sanitary Surveillance of Tuberculosis in New York City; illustrated by exhibits prepared for the St. Louis Exposition, by Hermann M. Biggs, M.D.; (4) Discussion of papers.

Columbia University Notes.—The trustees of Columbia University, at their last regular meeting, approved the proposal to incorporate the College of Pharmacy on terms similar to those by which Barnard and Teachers' colleges became a part of Columbia some years ago. President Butler becomes president of the college, the dean of the College of Pharmacy will sit in the Columbia University council, and the educational management of the College of Pharmacy will be subject to the general direction of the University Council, the College of Pharmacy retaining much of its autonomy. Edwin B. Cragin, M.D., professor of obstetrics, was appointed professor of gynecology; Harry McMahon Painter, M.D., attending physician in the New York Lying-in Hospital, was appointed to the newly created professorship of clinical obstetrics; Gorham Bacon, M.D., now professor of otology in the Cornell University Medical School was made clinical professor of otology, vice Albert H. Buck resigned, and William K. Simpson, M.D., was made clinical professor of laryngology in place of Prof. Lefferts.

New St. Francis Hospital.—The Sisters of the Poor of St. Francis, who for thirty-eight years have conducted St. Francis' Hospital, in East Fifth street, are erecting a new hospital on the block bounded by One Hundred and Forty-second street, Brook avenue, One Hundred and Forty-third street, and St. Ann's avenue, directly opposite St. Joseph's Hos-

pital for Consumptives. There will be 19 large wards, giving space for 304 beds, and 40 small wards, a number of which will be used for private patients. In addition, there will be constructed a house for the sisters, 120 by 54 feet, the lower floors of which will contain the kitchens and store-rooms and a handsome chapel, 48 by 80 feet. There will also be a garden for the patients.

Immigration and Disease.—In a recent number of the *Popular Science Monthly*, Dr. Allan McLaughlin, of the U. S. Marine Hospital Service, discusses very forcefully the dangers to which Americans are subjected by the present lax methods of preventing diseased foreigners from taking up their abode among us. It has come to be pretty well known from the constant harping of certain newspapers and magazines that this country is being rapidly supplied with adventurers from foreign lands; but comparatively few citizens have anything to say about it save that we are a wonderful people and rightfully stand forth as the inhabitants of "the land of the free and the home of the brave." That fact satisfies their patriotism, and occasionally a man's patriotism obscures almost all of his other good traits. But the most potent reason against even promiscuous hospitality is the introduction of loathsome and dangerous diseases, such as trachoma and favus among a hitherto immune population. According to Dr. McLaughlin there has been a great deterioration in general physique among the foreigners who have come here since 1880. Previous to that time most of the immigrants hailed from the northern or western parts of Europe and belonged to the stocky, healthy Celtic or Scandinavian types. To-day the bulk come from the South and East and are in comparatively poor physical condition. The weakest are the Hebrews, of which about 70 in every 100 remain in or near New York. Then come the next in order, the Italians, who are so commonly found in our charity hospitals and asylums. Then the Slavs, the Irish and finally the Swedes and Norwegians, of whom only 18 per cent. take up their permanent residence in this city. As a prophylactic against the spread of infectious diseases by this method our Government has instituted an inspection of both steerage and cabin passengers, sending back all those physically unfit to land and fining the steamship companies \$100 for each offense in allowing these objectionable ones to take passage. But, of course, there is Canada, and it is taking the best wit at our command to keep the border line from becoming the actual portal of entry for those sent back from New York. It would seem that not only the actual presence of disease, but a physique likely to soon give way under the stress of our climate should be equivalent to deportation. Or each applicant might be required to show a certain standard physique if between the ages of eighteen and forty-five years. Whatever is done ought to be put under way as soon as possible, for it is alarming how such diseases as trachoma and favus—both foreign to American soil—are spreading, especially among school children. In closing his article Dr. McLaughlin says, "If the thousands of recruits for the sweat-shop army could be checked for ten years the existing tenement-house problem would solve itself. The terrible congestion of the tenements would be relieved, the scale of wages for the sweat-shop worker would be elevated, and the general sanitary conditions of life on the lower East Side could be improved sufficiently to reduce the menace to public health from this cause to a minimum." This seems

like a broad and sweeping generalization, but it is made by a man who knows what he is talking about.

New Mt. Sinai Hospital.—On March 15 the new Mount Sinai Hospital, at Fifth and Madison avenues and One Hundredth and One Hundred and First streets, will be opened to the public for inspection. Two days will be given over to the reception of visitors, namely, March 15 and 16. Aside from its liberal allowance of sunshine and air, unusual for such an institution in a large city, the hospital's size, considered in the light of the number of patients who can be treated within the walls of the various buildings, is perhaps its most striking and interesting feature. No fewer than 450 patients can be housed in the various wards at one time, which is more than any other hospital erected by private donations will hold. In addition there will be accommodations for 52 private patients. Scarcely less interesting are the opportunities provided to enable convalescents to recover their strength while still under the advice and treatment of the physicians of the hospital. In view of a lack of surrounding grounds a roof garden has been arranged for them, in which they can bask in the sunshine, and from which to the west they will obtain a splendid view of Central Park. Furthermore, adjoining the ward in which they are undergoing treatment will be a room where they can enjoy themselves in quiet games to the extent their returning vitality will allow. Although the new institution will be opened for inspection on the two dates mentioned, patients will not be admitted until the morning of March 21. Neither patients nor furniture will be moved from the old hospital to the new. Admissions to the old structure were stopped on Thursday last, but those who are being treated there will be allowed to remain until they have been nursed back to health. The entire group of new hospital buildings will have cost, when completed, \$2,250,000. They will include the Administration Building, to which will be joined two buildings containing the medical wards, creating a structure which is really three in one. Then the group will comprise the Dispensary Building donated by the family of Meyer Lehman, the Nurses' Building, with accommodations for 160 nurses of the working corps; the Pathological Building, donated by Adolph Lewisohn; the Isolation Building, the Laundry and Kitchen Building, the Children's Pavilion, donated by Henry L. Einstein; the Private Pavilion, donated by the Guggenheim family, and one or two minor buildings. Of all the various interior innovations the Hydro-Therapeutic Pavilion is perhaps the most palatial. It is almost a complete house of marble, providing the opportunity for all sorts of baths prescribed by up-to-date physicians with the appurtenances therefor. The superintendence of the hospital will devolve upon Dr. S. S. Goldwater, who has made the superintendence of hospitals a special study. He was graduated from Bellevue Medical School in 1891. The corps of visiting physicians in the various departments will comprise: Consulting Physicians—Dr. E. J. Janeway and Dr. Abraham Jacobi; Consulting Surgeons—Dr. W. F. Fluhner and Dr. D. M. Stimson; Attending Surgeons—Dr. A. G. Gerster and Dr. Howard Lilienthal; Adjunct Attending Surgeons—Dr. Charles A. Elsberg, Dr. A. A. Berg, Dr. Joseph Wiener and Dr. A. V. Moschcowitz; Attending Physicians—Dr. N. E. Brill, Dr. M. Manges, Dr. Alfred Meyers, Dr. J. Rudisch and Dr. H. Koplik (children); Adjunct Attending Physicians—Dr. H. W. Berg, Dr. D. H. Davison, Dr. E. Libman and Dr. Albert Kohn; Attending Eye Surgeon—Dr. E.

Gruening; Adjunct Attending Eye Surgeons—Dr. Carl Koller and Dr. Charles H. May; Attending Gynecologists—Dr. Joseph Brettauer and Dr. Florian King; Adjunct Attending Gynecologists—Dr. H. N. Vineberg and Dr. S. M. Brickner; Attending Neurologist—Dr. B. Sachs; Adjunct of the Neurologists' Department—Dr. W. H. Hirsch; Attending Dermatologist—Dr. L. Lustgarten; Adjunct Dermatologist—Dr. F. Levisur; Radiographist—Dr. Walter M. Brickner; Assistant Radiographist—Dr. E. H. Eising; Attending Laryngologist—Dr. D. B. Delavan; Adjunct Attending Laryngologist—Dr. Emil Mayer.

PHILADELPHIA.

Operation by Dr. Ridlon.—A demonstration of the Lorenz method was given in the Jefferson Hospital March 1 by Dr. John Ridlon, of Chicago. The patient was a child of two years and the dislocation was reduced perfectly. At the same clinic were exhibited several patients operated upon last year by Dr. Lorenz and Dr. H. Augustus Wilson. Perfect cures seemed to have been attained in at least two of the cases.

Civic Club to Aid Fight Against Tuberculosis.—The Civic Club of Philadelphia gave up nearly all of its regular meeting March 5 to a consideration of methods for combating tuberculosis. The meeting was held in the College of Physicians and was addressed by Dr. Lawrence F. Flick, of the Phipps Institute. The Club proposes to aid in the movement against tuberculosis and other public organizations are expected to join. Efforts will be made to secure legislation to enforce preventive and curative measures and the erection of special hospitals.

New Sewer System to Prevent Typhoid.—The continued prevalence of typhoid fever, 195 cases having occurred during the past week, has caused the city authorities to consider plans for disposing of the sewage by means of the septic tank system. The plans contemplate the construction of large intercepting sewers along the Schuylkill and Delaware rivers, converging at a point near where the rivers meet. Here the plant for disposing of the sewage will be erected. If this project be carried out it will place Philadelphia in a position to legally attack the cities above its site for polluting the rivers.

Suture of the Heart.—A colored man, thirty years of age, was operated upon for a stab wound of the heart, at the Jefferson Hospital February 29, by Dr. Francis T. Stewart. The man walked some distance to the hospital after receiving the wound and was operated upon forty-five minutes after the injury was inflicted. The wound was found to be near the base of the left ventricle, the external opening being about one inch in length. This was closed by means of six sutures. The patient has since done fairly well with the exception of having a rapid pulse.

Biography of Dr. William Pepper.—The *New York Times Saturday Review of Books* for March 5 contains a very appreciative and highly commendatory review of Francis Newton Thorpe's life of William Pepper, M.D., LL.D., Provost of the University of Pennsylvania. The book is published by the Lippincotts of Philadelphia.

CHICAGO.

Gift to Augustana Hospital.—According to the will of the late Thomas G. Lowther, a sum of not less than \$20,000 from the residue of the estate will be given to this hospital.

Chicago Medical Society.—At a meeting held March 2, 1904, there was a symposium on Syphilis.

Dr. Hugh T. Patrick presented a woman, forty-one years of age, whose trouble dated back to 1899. He saw her in 1901 for the first time. She suffered from dizziness, failure of vision, intense headaches, considerable mental and physical hebetude. Following this she developed double vision, which lasted for a few months. Acuity of vision diminished rapidly, according to the statement of the patient. After having had this trouble for some time, she sustained a fall and was unconscious for a short time. When she regained consciousness she vomited. A month later she had another fall, and was also unconscious for a short time. During this time the severe headaches continued. After several months of these headaches, mental hebetude, double vision, and two unconscious attacks, she was removed to St. Luke's Hospital, and on the day following her arrival became unconscious, and remained so for twenty-four hours. She vomited just before she became unconscious. When she regained consciousness, everything looked blurred, and the left side was paralyzed. The arm became weak first, then the leg, and later the face became involved. With the left hemiplegia there was marked sensory disturbance; marked anesthesia, which continued for a considerable time. Two years after the attack, when patient had regained very good use of the left side, there was still considerable subjective trouble on that side, but very little objective. Patient uses the left hand for practical purposes, but it is not as dexterous as it was, and feels queer. She has complete homonymous hemianopia. The visual field is normal on one side, but gone on the other. As the result of her trouble, patient has permanent hemianopia, although she has nearly recovered from her left hemiplegia. Patient is absolutely ignorant of any specific infection. Dr. Patrick presented another case, a woman, twenty-one years of age, whose mother is at present suffering from tabes, with optic atrophy. The oldest child, a son, died about two years ago from general paresis. The next child, also a son, is at present suffering from tabes, with optic atrophy. Patient is the third and only remaining child, who, as an infant, had snuffles, and later developed mucous excrescences. Two and a half years ago she had a typical interstitial keratitis, but up to three years ago, aside from the trivial ailments of childhood, she was well. One day, while sitting on the step, she had a sort of stroke without loss of consciousness; became weak on one side, more especially in the face. The next morning she had another stroke which involved all of the right side. This attack was transient. A month later she had another attack of right hemiparesis which was a little more severe, and three months later a fourth attack, which was very severe, which left her completely hemiplegic on the right side with aphasia. First the face, then the arm and leg became involved. A year and a half ago, patient developed typical Jacksonian fits. These fits started with twitching and drawing in of the right side of the face, which extended to the arm, then to the leg, after which she had a general epileptic attack. Sometimes the spasm does not go so far. The face and arm may be convulsed, without loss of consciousness. Sometimes she has a severe attack which terminates in a general convulsion. Attention was called to the defective teeth of the patient. She also has a disseminated choroiditis. Patient showed unmistakable signs of hereditary syphilis, and Dr. Patrick said the question arose whether the two boys inherited syphilis or had it communicated to them as children. Either case was possible;

but the family showed the relation between specific disease, tabes and general paresis.

Dr. L. Blake Baldwin showed a Chinaman with syphilis. He had treated eleven cases of this disease in Chinamen. He brought the case for diagnosis. As it was difficult to get a history of such cases, he ventured to say that ninety per cent. of the cases of Chinamen who consulted physicians had this disease. With this thought in mind he has given all of them iodide of potassium with good results in most cases. When these patients presented themselves with facial paralysis, paralysis of the arm and leg, with large ulcerations on the leg, it was wise to give them iodide of potassium. The patient denied any initial lesion. Dr. Baldwin showed another case, a man, with a diagnosis of syphilis. Patient had a chancre eighteen years ago. He now had syphilitic iritis, but had improved considerably under the use of iodo-nucleoids. He mentioned a case similar to this that had made a perfect recovery. About five years ago this patient had a paralytic stroke on the left side, so that he was unable to move his fingers, but the paralysis lasted only half an hour. He also showed some cases of syphilitic lesions of the mouth. One patient had a chancre fourteen years ago, but no eruption on the body. Since that time patient had had two soft chancres about a year ago, which were cauterized by a physician.

Dr. Frederick Menge showed a boy, twelve years of age, who had hereditary syphilis. Patient had an active proliferating gumma in the nose, springing from the septum on both sides, filling the interior meatus and occluding both nostrils. He had also complete erosion of the uvula.

Dr. George F. Suker showed a boy who had a typical syphilitic head. He had the tripod of Hutchinson; interstitial keratitis, otitis media, and saddle nose. Patient also had syphilitic rhinitis; bilateral dacryocystitis; stenosis of the lacrimal duct. Patellar tendon reflex was not lost. Patient had what is called the Darier tooth; atrophy of the upper jaw and of the hard palate. Patient had had these affections since the second week of birth. Attention was called to the typical Hutchinson's teeth. The boy was a typical example of inherited syphilis.

Dr. E. A. Fischkin presented a patient who gave a history of having had a primary lesion some twelve years ago, the nature of which was not definitely known. Patient said he did not have secondary lesions, but did have mucous patches, and was free from other manifestations of syphilis for twelve years. Patient had been married five years, and had healthy children. About fourteen months ago purpuric spots began to appear on the lower extremities. Three months ago tubercles appeared on the side of the nose, which were circinate in form, gradually enlarged, and finally ulcerated. Patient was put on iodides and given inunction treatment. Soon the whole leg was covered with purpura, but the spots were closer together, particularly on the surface where the ointment was rubbed in. The question arose in the author's mind as to whether he was justified in calling the case purpuric syphilis, or was the purpura due to the toxic effect of the treatment. Against the latter, it should be said that the patient had purpura twelve weeks ago without treatment. The second case was a girl, fifteen years of age, who presented a typical tertiary, ulcerating syphilide on the leg. Patient also presented syphilitic scars of the type represented by atrophy and pigmentation. The history was entirely negative. The

disease was of two years' duration. If she had acquired syphilis, the primary infection must have occurred when she was twelve or thirteen. There were a number of scars on the leg and a general adenopathy.

Dr. George F. Suker showed two cases of syphilitic iritis. In one the eye was very painful, while in the other there was no pain. One had a small corneal ulcer. This patient admitted having had syphilitic infection about a year ago, but now had the secondary manifestations of the disease, with marked adhesions of the iris, and excessive proliferation of the pigmentary layer of the posterior surface of the iris, with a large portion of the anterior surface of the capsule of the lense being involved. There was great reduction of sight, with pupillary adhesion. The corneal ulcer was situated toward the nasal side.

GENERAL.

Loss to Johns Hopkins Hospital.—By reason of the Baltimore fire the hospital has lost about \$60,000 of annual income. This diminution of income must last at least two years, and possibly longer. This loss of income represents about a million and a quarter's worth of property which belonged to the hospital and was improved with warehouses and office buildings. The real estate of the hospital was scattered over a large territory, and the insurance of the property was not for total loss, but for the contingencies of ordinary fire. By reason of the fire 64 out of 80 warehouses were burned, and the actual loss of property beyond insurance is probably between three and four hundred thousand dollars. The loss of income, however, is much greater and much more permanent, because, in the great rebuilding it will probably not be wise to rebuild all the warehouses, and much real estate must necessarily lie idle. Under the circumstances the hospital authorities look forward to a considerable deficit for the next two years, unless some means can be devised for temporarily patching up the income.

Winter Weather and Public Health.—The *Times* speaks editorially of the severity of the weather during the past three months and of its influence on the general health as follows: "The most natural question to arise in the discussion of the severity of the past winter is its influence upon the public health. Outside of forms of disease attributed to the bacillus of influenza there is nothing in the current mortality statistics to attract especial attention. In other respects the public health is normal. Including these, the situation is extremely disquieting. The number of deaths occurring in New York city last week was greater than for any week of the winter season since the great grip epidemic of 1892-3. The number was 1,797, against 1,682 for the week preceding. Bronchitis and lobar pneumonia predominate among the causes certified by physicians in their reports of deaths, and the relatively small number of deaths assigned to influenza is explained by the fact that more exact diagnosis than was formerly possible permits of a more scientific classification. However, it is the grip microbe which is doing the work. Only a few years ago this specific bacillus was isolated and recognized, and in examinations of the sputa of patients in the hospitals suffering from diseases of the respiratory organs it is found in from 70 to 90 cases in the hundred. The infectious area is by no means strictly local. It exists actively in most of the nearby towns north, east, and south of New York, and in New Jersey is reported to have taken a somewhat distinctive type with the compli-

cation of swellings of the submaxillary glands. Public sanitation, with our present knowledge, can do but little to correct these conditions. The only effective safeguards will be found in prudence, and in the observance of avoidance of contact infection."

To Rid Mexico of Yellow Jack.—Dr. Owens, one of the Southern health officers who visited Mexico for the purpose of inducing that country to co-operate with the United States in getting rid of yellow fever on the frontier, declares that the Supreme Board of Health of Mexico will do all in its power, and is well provided with funds for that purpose. The most important sanitary work undertaken is that at Vera Cruz, which is regarded as the centre of yellow fever infection in Mexico. The Mexican board has at its disposal \$7,000,000 for the work of rehabilitating Vera Cruz, which will be devoted to sewerage and drainage work. The town is divided into four districts, with a medical officer in charge of each. Each one of these medical officers has under him a large corps of sanitary inspectors. A thorough tour of inspection is made of all suspected or infected districts each day, and each evening a report is made of the number of cases in each district. Oil is being used freely. Marshes surround Vera Cruz, and every possible precaution is taken to diminish the number of mosquitoes coming from them.

Impure Water for Cities.—"Authoritative information from Cleveland," says the *Times*, which paper takes an advanced position in matters sanitary, "shows that city to be fighting a typhoid epidemic, already serious and daily gaining headway. It had attained the importance of 68 cases in one day on the first of the present month, and the official returns for February show 465 cases reported and 45 deaths. The water of Lake Erie is polluted. The *Philadelphia Ledger* reports Health Officer Abbott as announcing that in that city a sweeping typhoid epidemic is threatened, having reached the stage of 30 cases a day. In 1903 there were 8,000 cases of typhoid reported in the city. The Schuylkill is polluted. In probably twenty cities and towns the conditions which menace Cleveland and Philadelphia are now being dealt with in the crude way customary when the limited machinery of the local sanitary administration is taxed to the breaking point. Why is it that experience teaches communities so little in matters so intimately affecting the public health as drainage and water supply? The *Public Ledger* says of the conditions tributary to the present situation in Philadelphia: 'At the Shawmont pumping station great difficulty is being experienced in getting water, owing to the serious break at Flat Rock Dam. Centrifugal emergency pumps have been installed on the towpath, and dirty, slimy water is being pumped directly into the pool. On last Tuesday the water above the dam was 17 inches below the breast. Owing to the rain, the water rose 5 inches in the afternoon. As long as this break is unclosed, there will be little opportunity for the water to settle before being pumped from the river.' No doubt the average citizen reading this will shrug his shoulders and think how regrettable it is that such an accident should happen with consequences so serious. That he will do more than this is scarcely to be expected. One would suppose that the effect of such an announcement would be comparable to that of ringing a general fire alarm; but it is not, never was, and perhaps never will be. To create and sustain an intelligent public interest in matters affecting the public health is one of the most difficult of human undertakings."

An ex-Prisoner on Professional Criminals.—We quote with approbation the following from the *Nineteenth Century*: "During the period of my incarceration I conversed with some hundreds of prisoners belonging to what is known as the professional or habitual criminal class, those desperate, hardened, clever criminals of whom we hear and read so much. I got at these men's sentiments, ideas and feelings, and I believe I am safe in saying that in only two instances did I encounter prisoners whom I put down as utterly irreclaimable. As for the remainder, they were professional criminals simply because no other profession was open to them. To suggest, as some writers do, that these men are burglars, housebreakers, pickpockets or whatever it be, because they hanker after pursuing these occupations, is to my mind sheer nonsense. These men are professional criminals for very much the same reason as ninety-nine hundredths of the women who nightly patrol the streets of the metropolis are professional prostitutes—because their wills have been weak and circumstances have been too strong for them. To assert that these professional criminals are mere wild beasts, impossible of being brought back to the path of rectitude, is, to my thinking, not only absurd, but untrue. No one attempts the reclamation process either in jail or out of it. Once a man has worn a prison suit, the world, whatever may be its protestations to the contrary, tacitly declares him an outlaw, every man's hand is against him, he is a pariah, an outcast; and, unless he be a man of strong will and fierce determination, or has private means or friends to assist him, he almost naturally relapses into crime. It is, in fact, his only alternative, and the men he has met in prison are the only persons who will assist him. I confess I feel sick when I read the puling sentimentality which from time to time appears in reviews and newspapers anent the innate depravity of the criminal, knowing as I do the struggle, the almost hopeless struggle, the ex-prisoner has to make if he is to exist without infringing the law. No doubt there are prisoners' aid societies which receive and spend the vicarious charity of the public. These societies will, I know, receive the prisoner on his discharge and make him clearly understand that he is an ex-prisoner; they will dole him out the paltry gratuity he has earned in prison, and, if he wants anything else, they will employ him to chop wood or at some such congenial labor—at a profit to the society. These institutions may do excellent work for all I know, but the excellent work has not come under my notice. How they expend their funds has always been a mystery to me, because in not one solitary instance—and I have made hundreds of inquiries—have I been able to trace the fact of their having rendered efficient aid to any discharged prisoner."

In view of this criticism we would call attention to the following item concerning the report of the New York Prison Association Report.

Faulty Prison Systems.—The Prison Association of New York has just submitted to the legislature its fifty-ninth annual report. It is confined almost entirely to subjects which can only be remedied by legislative action. The whole report, which is signed by Charlton T. Lewis, chairman, and S. J. Barrows, corresponding secretary, is an elaborate argument in favor of the reorganization and unification of the prison system of the State. The necessity of considering the problem of crime as a whole is made evident, and State control is recommended for all persons convicted of violating the State laws. The enforced idleness of prisoners in county jails is deplored, as well as the system in some counties of paying sheriffs so much a day for each prisoner they keep. Remedies for the various abuses are suggested, and they can be effected, it is said, "with

comparative ease and with small expense." The report opens by saying that "every year makes it more and more evident that crime in this State can only be adequately treated by considering the problem as a whole," and continues as follows: "The criminal is actually in advance of the State in taking advantage of the changed conditions of modern life. While the State continues to treat crime as if it were a local matter, the criminal is anything but local in habitation or in his depredations. He skilfully avails himself of modern methods of transportation to change his habitation and his field of operations from place to place, in search of profit or safety. He has discovered that with uniform laws and uniform judicial procedure in the State, there is no uniform prison administration. In fact, there are in New York sixty-two prison systems—namely, one for the State and one for each of its sixty-one counties. The tramp or the vagrant chooses for a winter residence the county, where he can get the most comfort with the least work, turning the weakness of the system to his own advantage. In many other ways local control and divided responsibility defeat efficient discipline and uniform and economical administration. We beg leave to call your attention to some of the anomalies which point to the necessity of a reorganization and unification of our prison system.

"One of the most obvious lies in prison administration. Neither the State commissioner of prisons nor any other State authority exercises any control over discipline, treatment, feeding, education, or labor in county jails or county penitentiaries. This association visits and inspects them as does the State commission of prisons, but like that commission has no powers of control. The inspectors can do nothing to improve the conduct of local institutions or to remedy abuses, save by personal appeals to the sheriff, or to county parliament, the Board of Supervisors, to which he is responsible. There is, therefore, no uniformity in the condition or treatment of prisoners in the sixty-one counties except that uniform idleness prevails in the jails throughout the State.

"The present system—if a method so irregular can be called a system—is incongruous. The Penal Code is the same in all parts of the State, but there are glaring inequalities in the application of the penalty. The equality of duration in a punishment is one thing; but equality of condition quite another. A sentence of two years to such a prison as Sing Sing, especially with two men in a cell, is a far heavier penalty than the same term in a healthy modern prison. The county jails vary so much in condition that a month in one is worse than three months in another, so that the penalties imposed do not represent any uniformity in punishment or discipline. The county jails are notoriously unfit for the discipline and correction of convicted prisoners. Experience has shown that uniformity of standard and condition cannot be attained even under a uniform law for the counties when the law does not efficiently provide for its enforcement. There is hardly a sheriff or supervisor in the State who is not guilty of violating laws as conspicuously as are the prisoners under his charge. It is extremely difficult, indeed, for such officers to comply with some of the laws under local imitations. It is important to note that a large part of this difficulty has been created for the counties by the State itself. This is especially true in regard to prison labor.

"Before the passage of the Constitutional Amendment, which provides that prison-made goods shall not be sold in the open market, but only to the State or to political divisions thereof, four counties in the State maintained penitentiaries in which every prisoner except those physically disabled, had the mental, moral,

and physical advantage of a full day's work, and these institutions were more than self-sustaining. The passage of the Constitutional Amendment destroyed the industries of these county penitentiaries. That the taxpayers of the counties are compelled to support in idleness several thousand able-bodied prisoners is a frightful anomaly of our Government; yet even this is of slight moment compared with the moral and physical evils which arise from keeping prisoners in enforced idleness. It is ten years since the Constitutional prohibition was adopted and seven years since it went into effect (January 1, 1899). If any one wishes to know the result of this prohibition in keeping men from productive labor, let him go to the Rochester penitentiary and see a hundred men in one room and a hundred in another sitting in absolute idleness under the oversight of keepers waiting for the time to pass. The monotony of this punishment is relieved occasionally by marching the men around the yard. Here is an inert mass of humanity forcibly removed from society and maintained like a stagnant pool in a corrupting miasm of inactivity as if the only object of such an institution were to breed the scum of civilization, and to propagate it in the community. For it must not be forgotten that the most of these men in the course of six or nine months are going out of prison worse than when they came in. If individual idleness is bad, collective idleness is much worse. To see it in its most evil and contaminating aspect, we must go to the county jails throughout the State, where the orderly silence which prevails at the penitentiary gives place to the freest and most contaminating association in the corridors.

"It may be said that notwithstanding the constitutional limitation of labor, the law of 1896 requires that prisoners in county jails shall be employed six days in every week, and that it is the duty of sheriffs and supervisors to enforce the law. This is true, and in several counties these officers are neglecting even the meager resources which the Constitutional Amendment left in their hands. But the main difficulty is that while the Constitutional Amendment destroyed the market, the subsequent law requiring labor did not restore it. If supervisors and sheriffs in the different counties are asked why they do not keep prisoners at work, they always have to answer: (1) There is no place in the jail where men can work. (2) There is no way of disposing of the product if prisoners did work. Both of these answers have great force. Our jails have no workshops where machinery could be installed, and in most of them the cells are too small and too dark to permit of even hand labor. In most of the counties the county institutions afford no sufficient market for the product of prison industries to encourage the introduction of them."

The fee system as applied to sheriffs in criminal cases is commented on as follows: "It is a blot on the good name of the community that a discredited system which has been discarded by nearly every civilized nation should be maintained here as a source of revenue for local politicians. It is not the county alone; it is the State which pays the cost. The fee system instead of diminishing crime tends to increase it; it substitutes detention for prevention and reformation."

Lunacy in Great Britain.—The fifty-seventh report of the British Commissioners in Lunacy reveals a most serious situation; according to their tables there were in England and Wales on January 1, 1903, 113,964 notified lunatics, 3,251 in excess of the number on the corresponding day in 1902. This increase for 1902 contrasts with one of 2,769 for 1901, and 1,333 for 1900. The average annual increase in

the number of lunatics for the five years ending December 31, 1902, was 2,398. Thus the increase in the year 1902 exceeded the annual average increase in the preceding five years by 853. The latest returns show an increase in the county and borough asylums of 3,749 patients over the number for January 1, 1902. The pauper patients (47,102 males and 56,692 females) have increased in the county and borough asylums by 3,628. As regards the ratio of the insane to the population the Commissioners point out that the aggregate of lunatics under official cognizance on January 1, 1903, gives a ratio of one to every 293 persons of the general population of England and Wales. In 1879 the ratio of lunatics to the general population was 1 to 363, in 1889 it was 1 to 337, and in 1899 it was 1 to 303. The proportion has continued to increase steadily ever since, and it now amounts to 1 in 293. It appears that the rate of recovery is higher among women than among men, but more women die than men. Alcoholic intemperance is assigned as the cause of insanity in 23 per cent. of the males, and nearly 10 per cent. of the women. The male epileptics are more numerous than the female by 30 per cent.

Extermination of Mosquitoes.—"At a luncheon in Liverpool, the other day," writes the *Evening Post*, "Prof. Royce, recently returned from Egypt, gave an interesting account of the success which has attended the efforts to extirpate the mosquitoes and malaria from Ismailia. He said that when Major Ross visited Ismailia in September, 1902, there were 2,000 cases of malaria annually in a population of 9,000 people, of whom 2,000 were Europeans. The authorities at Ismailia loyally carried out his suggestions as to filling up marsh land close to the town and cleaning out small irrigating channels and stagnant waters. That involved an expense of \$22,000, and at the same time they organized a drains brigade and a petroleum brigade, and now people could sleep in any of the houses in the European quarter without mosquito nets. Malaria cases had been reduced from 2,000 a year to 200. As a matter of fact, there were no fresh cases of malarial infection in Ismailia; there had been no deaths among Europeans during 1903, and only four among natives, against 30 deaths the year before. The improvement was so wonderful that Prince d'Arenberg, president of the Suez Canal Company, hopes soon to see Ismailia the sanatorium and watering place for Cairo. Major Ross, who was present, remarked that the success of the anti-malarial campaign at Ismailia had taught two things—that it was possible to rid a large town entirely of mosquitoes, and that it was equally possible to eradicate malaria. He had been asked to draw up a report as to malaria cases in India, which were responsible for 300,000 admissions to hospitals from the troops and jail prisoners. With the Ismailia figures before him he felt confident that these high figures would be reduced soon by at least one-third."

OBITUARY.

Dr. WILLIAM RANKIN, JR., for over thirty years a practising physician of Newark, N. J., died Feb. 27, aged fifty-six years. He was a graduate of Rutgers College and the College of Physicians and Surgeons in this city, and also studied in the hospitals at Vienna, Austria. He was for years on the visiting staff of the Newark Charitable Eye and Ear Infirmary, and Secretary of the old Newark Library Association, and a member of the American Ophthalmological Association, the American Otological Association, the New Jersey State Medical Society, and the Essex District Medical Society.

Dr. THEODORE Y. KINNE, of Paterson, N. J., died at

his home last week of heart trouble. Dr. Kinne, born Aug. 27, 1838, near Syracuse, N. Y., was a descendant of the early settlers in this country from England. After a year's attendance at West Point as a cadet, he resigned and took up the study of medicine. He was valedictorian of his class in the Albany Medical College in 1862. In 1864 he went into the Union Army as an assistant surgeon of the One Hundred and Eighty-fourth New York Volunteers, and later on he was transferred to the regular service of the army. He came to Paterson in 1867.

Dr. MOSES D. KNIGHT died at his home in Clinton, N. J., last week. Overwork resulted in an attack of heart disease, which terminated in his death. He was a graduate of the University of Pennsylvania and seventy years old.

Dr. OGDEN CURTIS LUDLOW, whose death was noticed in last week's *MEDICAL NEWS*, died of typhoid fever. Dr. Ludlow was born on Staten Island and was graduated from the New York University, and the College of the City of New York. His grandfather was the late S. R. Smith of Staten Island, after whom the S. R. Smith Infirmary, at New Brighton, was named. Dr. Ludlow was a member of the American Medical Association, State Medical Association, County Medical Association, of which he was secretary; County Medical Society, Society Alumni of St. Luke's Hospital, and was attending physician at St. Joseph's Hospital. Dr. Ludlow was one of the most skilful medical stenographers in this country, as well as an able and highly esteemed practitioner. He died in the prime of life, and his death will come to many as a personal loss.

Dr. DAVID L. WALLACE, a prominent physician of Newark, N. J., and a member of the Board of Health of that city for many years, died of pneumonia last Monday night, after a brief illness.

Dr. FRANK E. BAKER, ex-superintendent of the Newark City Hospital, and a practising physician, died in that city March 4, aged forty-eight years. Dr. Baker was a graduate of the College of Physicians and Surgeons of this city.

Dr. GEORGE W. NEVILLE, a pioneer physician and preacher, and a Union leader in the days of border fighting, died at Bethel, Kansas, aged eighty-two years. At the beginning of the Civil War he recruited the Second Battalion of Missouri State militia, and in 1862, with 100 recruits, he repulsed an attack upon Harrison Mills, Mo., by 300 of Quantrell's Guerrillas.

Dr. HENRY A. RUNDLETT died last Wednesday at his home, No. 102 Hamilton Place, this city, after a brief illness, of pneumonia. He was born in Chelsea, Mass., in 1856 and was graduated from Harvard University and Medical College. He was well known in the profession in this city, being connected with the German West Side Dispensary and the New York School of Clinical Medicine. Dr. Rundlett was a great friend of the late Henry George, and was one of the speakers at the dedication of the monument to his memory.

CORRESPONDENCE.

OUR LONDON LETTER.

(From Our Special Correspondent.)

LONDON, February 20.

A MEDICAL PREMIER FOR CAPE COLONY—THE STATE REGISTRATION OF NURSES—HERBERT SPENCER AS A HYPOCHONDRIAC.

THE victory of the Progressive party in the recent elections at the Cape of Good Hope will doubtless place Dr. Leander Starr Jameson at the head of the colonial government. He is doubtless well known on your side of the Atlantic as the "hero"—to use the word in a

theatrical sense—of the Raid. It is now nearly twenty years since he gave up the practice of medicine for the career of a political adventurer under the wing of Cecil Rhodes. He went out to Kimberly in 1878 not, as the legend is, for the sake of his health, but in pursuit of an opportunity of establishing himself in that place as a physician which unexpectedly presented itself. He was very successful and his name became so widely known through South Africa that, by an irony of fate, he was once called in to treat President Kruger. At Kimberley Jameson became intimate with Rhodes who had been condemned by his English physicians and who went to Africa to seek a respite from what was believed to be imminent death. In course of time as the horizon of a new life opened up before him Rhodes induced Jameson to become Administrator of Mashonaland. I need not rehearse the oft-told tale of the Raid and the imprisonment that followed. Jameson himself has said that he made a mistake and paid the penalty. But it cannot be forgotten that his country also suffered grievously for his folly. Unless he has learnt wisdom in the school of experience, his career as Premier of Cape Colony is only likely to lead to fresh disaster, for he is impulsive and headstrong and lacks the qualities that go to the making of a trustworthy pilot of the Ship of State. As a doctor he had plenty of knowledge but was deficient in judgment; exactly the same may be said of him as a politician. It should be added that he is honest and utterly disinterested. He was the only one of the Rhodes gang who did not amass a vast fortune. This should be reckoned to him for righteousness, for he had every opportunity.

A Bill for the State Registration of Nurses has been introduced in the House of Commons by Dr. Robert Farquharson. It has the active support of two other medical Members of Parliament, Sir John Batty Tuke and Dr. Edward C. Thompson. It was read for the first time on February 15. The object of the Bill is to establish a recognized standard of capability and to prevent any woman who has not reached that standard from calling herself a registered nurse. As is pointed out by Lady Helen Munro Ferguson, in the February number of the *Nineteenth Century and After*, the nursing profession dates from after the Crimean War, when Miss Nightingale organized the first training school in St. Thomas's Hospital. She herself, and Miss Agnes Jones, the pioneer of Poorhouse Nursing, had to find their training in the Kaiserwerth Deaconesses' Home on the Rhine, where the care of the insane and the teaching of children alternated with attendance on the sick. The training organized by Miss Nightingale was more strictly professional in character, and lasted for one year, a period which has subsequently been extended to meet hospital necessities and the growing demands on nurses' skill and knowledge, until to-day no fully trained nurse has had less than two years in a general hospital. Meanwhile the scope of the profession has enormously increased, and some of its latest developments, which bring it into direct contact with the homes of the people, have converted it into a potent instrument of social progress. Mr. Charles Booth states in his book on London that "it is almost true to say that wherever a nurse enters the standard of life is raised;" and he speaks of the advance in this direction as "perhaps the best fruit of the past half-century." The public has not been behind the scientific inquirer in fully appreciating the value of district nursing, and there will soon be scarcely a country town or village without its Queen's or parish nurse, while the quality of the services employed has been considerably raised through the impetus given to the movement by the late Queen Victoria, when she dedicated her Jubilee Gift to the training of highly skilled nurses for the poor. Continued

efforts are being made to secure trained nurses for the poorhouses and workhouse infirmaries. Certain London schools now employ visiting nurses to inspect and attend ailing pupils, and it may be expected that the Scottish Report on the physical condition of children will lead to further employment of nurses in connection with our elementary schools. In other directions new spheres of usefulness are opening before them. The imperialist wave has swept them into the service of the Empire, and newly formed societies have organized the Nursing Associations for India, South Africa, and the Crown Colonies. While on the one hand the sensitiveness of the public to political and social questions is encouraging the development of nursing; on the other, it is found that the progress of scientific surgery and the increasing numbers of special treatment and curative processes are entailing fresh calls upon the profession and necessitating a rising standard of skill and knowledge. Yet the profession is still, as regards its internal organization, in a state of chaos. It has no governing body, no standard of training, no corporate existence. Every hospital—whatever its size and standing—is a self-constituted training school. Each works as a separate unit, carries out its own theories of training, and confers its own certificate. A woman who has been two years in a small cottage hospital, six months in a lying-in hospital, or some such specialized institution, will emerge from it as legitimately a "nurse" as a woman who to her three years in a general hospital has added experience in fever and obstetric wards, and passed through the courses of theoretical instruction in bacteriology, physiology, and sanitary science, which form part of the training in many of our large institutions. In these latter hospitals the period and character of the training are more or less assimilated; but even in their case the terms and conditions of service are very varied. Everything depends on the matron. She can curtail or lengthen the period of probation; she can so arrange the work that her nurses will pass successively through the medical, surgical, and other wards, gathering all kinds of experience; or she may so legislate that her nurses will leave the hospital, having seen but one department of work, and remain therefore practically untrained in every other important direction. The certificate earned in either case will be of precisely the same value, will carry the same consideration, and entitle its recipient to the same remuneration. As a result, the prizes of the profession—rich as they are—are distributed haphazard among the fully trained and the partially trained. Private nursing institutions, from which the general public draw their nurses, are staffed with nurses of every kind and degree of training, the one point of similarity being the fees they demand. This state of affairs is unfair not only to the nurses themselves, but to the public. During the late war, when the supply of Army Nurses and their reserves had become exhausted and a call came for volunteers, the absence of a register and the impossibility of discriminating between the qualifications of applicants was a serious handicap, and resulted in the employment of many partially trained nurses, to the exclusion of those who were equally willing and more efficient. The Bill introduced by Dr. Farquharson is intended to remedy those evils. There is, however, very little chance of its becoming law this year. It is to be opposed by the Central Hospital Council for London. That body at a meeting held not long ago at which representatives of all the leading London Hospitals were present passed a resolution to the following effect: "That this council is opposed to any State registration of nurses, and that steps be taken on behalf of the council to oppose any Bill in Parliament having such registration for its object." The case for registration is so

plain and so cogent that it is difficult to believe that this action of the Central Hospital Council is inspired by any higher motive than the wish to prevent interference with the brisk trade which the big hospitals at present ply in nursing certificates. From an economic point of view a uniform standard of professional proficiency would not suit them. It is the old story of "vested interests" which in this country stands in the way of every proposal for reform. There can be little doubt, however, that a State register for nurses will, at no very distant date, be established. The nursing world here is divided into factions which hate each other with all the fervor of rival philanthropists. Another bill having the same object is being promoted by another Society, and the British Medical Association is understood to be considering the whole question. The principle of a measure of such distinct public utility can scarcely fail to be adopted, and when that has come to pass legislation must soon follow.

Much has been written about Herbert Spencer's ill health, and it is certainly wonderful that a man whose physical weakness was so much out of proportion to his intellectual vigor should have produced so much. It appears, however, that he was, at least to a large extent, a *malade imaginaire*. Mr. William Henry Hudson who was for a considerable time closely associated with him in his literary work, tells us that the philosopher's long-continued ill health had hardly any effect on him outwardly. His tall and rather gaunt figure was almost to the last wonderfully erect; his cheeks were always ruddy; his splendid voice—which would have been a fortune to an orator—retained its richness and resonance, his rather rare laugh, its deep-chested musical quality. Few men in the eighties were so well preserved as Herbert Spencer; and it was difficult in looking at him or listening to him to believe that for half-a-century he had been to a considerable extent an invalid. He was often irritable and sometimes quick of temper and of tongue; and he had so little tolerance for the foibles, prejudices and petty absurdities of every-day life that he now and then struck one as hard and even censorious. His irritability had its root in his physical condition. Overwork on his *Principles of Psychology*, which in its original form was published in 1855, brought about a severe attack of nervous prostration from which he never wholly recovered. From that time he was a martyr to dyspepsia and insomnia in their most obstinate forms. He told Mr. Hudson that from the period of his breakdown in middle life he had never known what it was to enjoy a full natural night's sleep. On meeting him in the morning Hudson would ask how he had slept, and the best answer he ever had to give was "I had a very good night for me; I slept four hours." Matters were made worse by his constant recourse to all sorts of soporifics to which he had in the first instance been driven by sheer despair, and which he long employed in quantities which frequently caused his friends alarm. These drugs, while, of course, they did nothing toward the permanent alleviation of the insomnia, undoubtedly aggravated the digestive troubles, while the reaction following their use just as certainly increased the nervous depression and irritability. Another feature of the case, and a very distressing one, was the hypochondria which grew out of these conditions, and which, during the later years of his life, added to the invalid's actual sufferings a variety of imaginary ills. Again and again physicians assured him that the great organs were all sound; he was never fully convinced; and he ultimately got into the habit of watching himself and his symptoms with a morbid curiosity and a minuteness the mental results of which may be readily conceived. Another writer who knew Spencer well, says that "like other valetudinarians he was a

somewhat exacting visitor and host. He hated striking clocks, especially those out of doors. When lodging in a village in Berkshire he sent a peremptory request to the owner of the principal house there that the stable clock, which struck the hours, should be at once stopped. When out driving he would, if it occurred to him that he was not feeling well, carefully ascertain the speed of his pulse, and were that not entirely satisfactory would there and then give the order to return home."

PLAGUE IN INDIA.

To the Editor of the MEDICAL NEWS:

DEAR SIR: The practical medical man in America will ask but two questions about the plague epidemic in India: (1) Is it likely to spread to the United States? (2) Are suitable measures being taken in all infected ports to prevent rats and other animals from carrying vermin on board ships sailing to American ports, and in general, to prevent the shipping of infected materials?

Considering the distance of India from the United States, and the strict quarantine measures enforced at all American ports, the first question may safely be answered in the negative. To answer the second, would require a thorough knowledge of the difficulties under which the authorities labor in all hygienic matters. The casual observer might readily report that there were very few sanitary precautions taken, either in the city or in the vicinity of the docks where foreign-going ships are loaded. It is true that the quarantine regulations of the United States are not strictly complied with; for instance, on page 16, paragraph 14, of the Regulations, we read: "At ports or places where plague prevails, every precaution must be taken to prevent the vessel becoming infected through the agency of rats, ants, flies, fleas, or other animals. At such ports or places the vessel should not lie at a dock, or tie to the shore, or anchor near any place where such animals may gain access to the vessel. In case cables are led to the shore, they should be freshly tarred and provided with inverted cones or such other devices as may prevent rats and other animals passing to the ship." But any one who cares to visit the docks will find every vessel tied closely to the wharf, with numerous gangways open, and innumerable cables passing from shore to ship, provided with none of the devices suggested above. That there is something very remiss here can hardly be questioned. And the same observer may go into the parts of town where plague prevails, and accompanying the divisional health officer to a tenement where a case of plague has been reported, may see how powerless the officer is, either to compel removal of the patient to an isolation hospital, to prevent a considerable circle of relatives from becoming exposed by proximity to him, or to carry out any disinfection, so long as the patient wills to remain in his own bed. The observer begins to feel that there is nothing to prevent plague from wiping out the population of Bombay and from extending whithersoever it will, by sea routes.

Two facts must be borne in mind to quiet these fears. One is that the inspection of foreign-bound passengers and of their luggage is very thorough, especially in the case of natives or others who have come from seriously infected localities. The process will be described a little later. And the other is that in general, plague shows a tendency to restrict itself to tenement houses which have previously been infected, not often attacking new quarters. And further, that those who exercise proper personal precautions, run comparatively little risk of becoming infected. It is needless to add that those who have been inoculated with Haffkine's prophylactic fluid

are practically safe, even in the presence of a large number of plague cases.

When the disease first appeared in Bombay, late in 1896, stringent measures were adopted by the Government to prevent its spread. Extensive disinfection was undertaken, segregation was compelled under military force in a large number of cases, and other means tried. So strong, however, is the religious hatred of the native, either Hindu or Mohammedan, for anything that seems like interference with his home, that a tremendous feeling of hostility, amounting practically to revolt, was rapidly aroused. The Hindu felt that his home was defiled by the promiscuous entrance of Europeans and servants of low castes. The Mohammedan would far sooner die than be compelled to go to a hospital. And little by little, the stringent measures *had* to give way. Many of them were unnecessary, and others possibly unwise, but at the present, everything that seems like compulsion has been abolished. A single illustration will suffice to show how strong was the feeling of resentment against interference. In one case where it was reported that there had been a death from plague in a certain house, the health officer made his visit, accompanied by the usual squad of policemen, but on asking to see the body, was told that there had been no plague there. The family, known to number eight, were gathered at their meal in full force, and entreated the officials not to come near them lest the meal be defiled. However, as careful search through the house failed to reveal the presence of any corpse or even of a living patient, the inspector approached the family and told them that they must leave the house at once, as it was to be disinfected. Much against their will, seven of the number rose from their seats, while the eighth was now found to be the corpse of the patient who had died of plague, and which had been thus propped up at the meal in order to avoid detection and disinfection.

A sad event in Northern India last year proved to be a great setback to the plague operations there instituted. In one village, after much persuasion, the leading native official had succeeded in getting the people to submit to inoculation, which was done to a large number of persons. It would have been a splendid field for studying the protective powers of the prophylactic, had it not been that within a few days nine persons died of tetanus, evidently contracted through the inoculation. No statement has yet been made public as to exactly where the blame lay, but, of course, the whole country round about became greatly frightened, and no more inoculations could be done for some time. The government of the Punjab, where the accident occurred, has just published the following statement: "The plague measures hitherto adopted have failed to secure the thorough cooperation of the people or to exert much influence on the course of the epidemic. . . . The time has come to cancel some of these and relax the rest. . . . The few necessary and harmless (1) rules which still remain will be enforced strictly, and if necessary, by prosecution, in case of negligent acts likely to spread infection. But prosecutions are to be discouraged. Although early information of the first cases of plague is very important, the compulsory examination of suspected patients or corpses is forbidden, but every person in whose household plague cases or deaths occur, is responsible for reporting these. So soon as the fact is known, information will be spread widely to warn intending visitors of the danger. . . . Evacuation of dwellings is especially advised as soon as nature warns of danger by the presence of dead rats. And if the majority in a village send in a written petition, coercion of the minority may be employed. . . . There is to be no restriction in the future, of the movements of people, with a view to checking the spread of in-

fection by human intercourse, from place to place. There will be no prohibition of railway travel to infected areas and no interference with the travel of persons by road. Railway and road inspections will not be resorted to, and people will be allowed to move about freely in connection with fairs, marriages, and social gatherings. . . . As the religious feeling of the people is opposed to measures for the wholesale death of rats, and as money is wasted without the cooperation of the people, no considerable expense will be incurred along this line in the future."

This government statement has been quoted from rather fully, because it shows so well the way in which, one after another, the authorities of the several infected districts have been compelled to retract from their original position.

The status of disinfection requirements in Bombay and determination of the cause of death in suspected cases, is about as follows; watchmen are appointed at the various burning grounds and cemeteries to give notice of deaths. There are others who are detailed for duty in each district of the city to find out where plague cases have occurred. On receiving a report of a case, the subregistrars, who are qualified hospital assistants, try to get permission to examine the case, during life or after death. If this is not granted, they seek to determine by inquiries, the nature of the case. If it be thought that the case was one of plague, the registrar orders disinfection, and this is carried out either (1) after the case is removed to hospital; (2) after recovery; (3) after the death of the patient, should that occur. In other words, the place may remain without disinfection until the patient recovers or dies. For disinfection, phenyl and acidified bichloride of mercury are used, the furniture being swabbed with the former, and the walls with the latter, the floors being drenched with the same. It is difficult to persuade the relatives to produce any of the patient's clothes for disinfection.

In spite of this enforced absence of stringent regulations, the plague prospects for Bombay are brighter now than in any year of the past seven. Although there were more deaths from plague during the week ending January 19, for example, than in any previous week since last spring, yet it is by looking backward that one is encouraged to hope for improvement. During the week ending January 19, there were 189 deaths from plague, with a total death rate from all causes, of 45.56 per thousand per annum, whereas the mortality figures from plague for the corresponding weeks since 1897 have been 470, 651, 308, 428, 328, 296, 469; and the total death rate for the corresponding week has never been lower than 66.13 since the epidemic started. Just why there has been this improvement it is hard to say, although it is certain that the large number of inoculations done in the past, coupled with the tearing down of buildings unfit for human habitation has been responsible for much good.

If one turns to the inspection of passengers leaving Bombay by sea, there can be little complaint of lack of thoroughness. In the case of Mohammedans, who at certain seasons of the year go in large companies on pilgrimages to Mecca, the requirements are especially strict. The pilgrims are arranged in long lines and individually looked over, all who have fever or other suspicious symptoms being set aside. All who pass this preliminary survey are sent over, in groups of a thousand or so, to a small island in the harbor, where they remain under further supervision for ten days longer, being allowed to embark directly from the island if still free from plague symptoms. All but the newest of baggage is thoroughly sterilized by steam under pressure. Not even first-class passengers are allowed to embark without having been passed by the

medical officer, whose examination need not consist frequently, in any more than a determination that the said passenger has not come from an infected locality and that he has no fever.

In all parts of India, the Government is doing whatever it can, in the laboratory and by personal observation of infected localities, to determine what is the most prevalent method of infection, and to evolve new methods of combating the epidemic. They are now undertaking a series of observations as to the recurrence of plague in infected tenements, even after repeated disinfection, and it is hoped that some facts may be brought to light which will have a practical bearing on the control of the disease.

EDWARD H. HUME, M.D.,

Acting Assistant Surgeon U. S. Public Health and Marine Hospital Service.

BOMBAY, India, Feb. 3, 1904.

SOCIETY PROCEEDINGS.

HARVARD MEDICAL SOCIETY OF NEW YORK CITY.

Regular Monthly Meeting, held December 26, 1903.

The President, Frank H. Daniels, M.D., in the Chair.

Tinnitus Aurium.—This paper was read by Dr. William S. Bryant. So-called tinnitus aurium, he said, may take the form of any conceivable sound, rumbling or pulsating or bell ringing, and in addition to the sound heard there is often an indefinite sense of discomfort within the head. It would seem that these disagreeable feelings cause the proverbial melancholy and irascible temper of the deaf, which by contrast make the blind seem happy. It is generally recognized now that almost any form of deafness or impairment of hearing, is apt to be accompanied by noise in the ears. In nervous individuals the annoying symptoms occasionally become unbearable.

Temperament and Tinnitus Aurium.—Dr. Bryant considers that of late years particularly there has come a very general realization that the effect of noises in the ears are largely dependent upon the individual idiosyncrasy as regards the bearing of annoyances. Very nervous people are not able to stand even slight noises without being so disturbed that they cannot eat or sleep or have any comfort. On the other hand, phlegmatic individuals stand even loud noises without any considerable complaint, and these same patients find that even a little relief affords them so much diminution of whatever annoyance was present that they are very well satisfied. Of course, this same thing is true with regard to other nervous symptoms and the bearing of pain or discomfort generally by nervous people. It will usually be found that if nervous patients do not stand sedatives well, any measure of relief that can be afforded to their tinnitus aurium short of absolute eradication of it, will not seem to them to have benefited them very much.

History of the Affection.—Tinnitus, that is noises in the ear or in the head, was described among the old Greeks by Hippocrates, the father of medicine, and by some of his disciples. Its treatment was then a perplexing problem and it has been so ever since. In recent years otologists have found that it is even more common than was formerly supposed and that very few affections of the ear fail to be unaccompanied by this symptom to a greater or less degree. The diagnosis of tinnitus aurium depends wholly on the statement of the patient, for the symptom complex is purely subjective; there are noises in the ears or in the neighborhood of the ears that may occasionally be heard by

anyone who listens for them, but these do not come under the head of tinnitus aurium, which is an entirely subjective phenomena of ringing in the ears.

Etiology.—Tinnitus aurium is due to slight rather than to grave disturbances of the middle ear and is much more common with catarrhal than with purulent inflammation. In most cases the condition is a gradual development of progressive catarrhal or degenerative processes in structures connected with the ear and with the posterior nares. The most important primary cause is either defective nasal respiration, or frank mouth-breathing which excites catarrhal conditions. Not infrequently these seem to be aggravated by some underlying constitutional defect usually spoken of as the gouty diathesis, or considered to be at times some nutritional or circulatory disturbance.

Course of the Disease.—The chapter of accidents which finally leads up to tinnitus aurium practically always begins in infancy and mouth-breathing is writ large on the first page. As the result of mouth-breathing, unfiltered air is carried directly into the posterior fauces and there is caught by the lymphoid tissue consisting of the true tonsils and the faucial tonsillar ring. These microorganisms are usually not very virulent, but they produce low grade inflammatory conditions, commonly spoken of as catarrhal. As a consequence of their presence and the lymphoid reaction against them, hypertrophy of all the tonsillar ring occurs. This is the principal cause for adenoids and is the primary step. While it is usually considered that adenoids are the cause of mouth-breathing, the vicious circle seems to start the other way. The third page of the chapter of accidents that leads up to tinnitus aurium, is nasal deformity with more or less serious obstruction of breathing through the nose and the last page is chronic inflammation of the whole mucous lining of the nasopharynx and middle ear and then surely comes the tinnitus. The conclusion of the chapter is deafness.

Mouth-breathing.—To Dr. Bryant it seems clear that mouth-breathing is generally the precursor and not the consequence of nasal obstruction and it is this perversion of function that causes the local hypertrophy of the lymphatic tissues. When nasal breathing does not continue, the nose no longer subserves its true function and, as a consequence becomes diminished in size, thus keeping up the vicious circle that has been established. Hence the presence of a deflected septum so often in these cases. Because of the absence of function, all the outer portions of the nose do not grow as they should. The nasal septum reaches its normal development, however, and, in order to accommodate itself to its narrowed quarters under the pathological conditions, it must become deflected or bent on itself.

General Conditions in the Etiology.—There is no doubt now in the minds of the great majority of the otologists that many constitutional conditions are responsible for tinnitus aurium. It is not difficult to understand how this is the case. The general conditions most often responsible for it are gout, anemia, cardiac disease, chronic kidney disease, or liver disease and the like. All of these cause a disturbance of the general metabolism, and lessen the resistive vitality of the lymphoid tissues in the throat. As a consequence of this micro-organisms that find their way into the mucous membrane of the fauces, set up low grade inflammatory conditions, which lead to disturbances of the circulation in the mucous membrane of the nasopharynx, the Eustachian canal and even the middle ear itself. Under these conditions microorganisms that enter the respiratory passages with the oral respiratory tide are not properly resisted. When nasal respiration is normal they are strained out of the air and, becom-

ing entangled in the mucous secretion, flow down out of the nose, to do no further damage.

Prophylaxis.—The prophylaxis of tinnitus aurium must be begun early in life and must be directed mainly to the prevention of mouth-breathing and catarrhal inflammations of the mucous membrane of the fauces, especially if anemia or gout is known to be present. For the best results prophylactic measures must begin in early infancy and must be directed from the very beginning to the maintenance of nasal breathing. Children of wealth seem much more likely to be affected with mouth-breathing than those of the poorer classes. Anyone who has studied the habits of the children of the rich, their tendency to talk much and thus keep the mouth open, encouraging mouth-breathing, and to gape at curious things that they are taken to see instead of being allowed to play with playmates in their own way will easily understand this additional frequency. There must be much more attention to somatic conditions in children rather than to the cultivation of intellectual precocity.

Prognosis.—The prognosis of tinnitus aurium depends on the cause to which it is due. Dr. Bryant found from many years of experience in the Massachusetts Charitable Eye and Ear Infirmary, commencing as far back as 1887, that a cure might be expected in every case when the tinnitus was due to some disease of the outer ear alone. A cure might be expected in 50 per cent. and considerable relief of symptoms afforded in the other 50 per cent. when the middle ear alone was affected. When the disease is due to general conditions the prognosis depends almost entirely on the power of therapeutics to control the anemia, the gouty condition or the cardiac disease, to which the disturbance of the ear circulation is secondary.

Treatment.—As prophylactic treatment, Dr. Bryant considers that the most important factor is the removal of adenoids in children, so as to permit of nasal breathing, before the nasal tissues have become so abnormal as to make the resumption of their breathing function a difficult matter. Adenoids should be removed in young children as soon as discovered and whenever mouth-breathing exists the cause should be traced and removed so soon and whenever possible. Conditions very soon become inveterate and then simple operations no longer effect the benefit that they would at the beginning. The treatment of the fully developed condition of tinnitus aurium has in the past covered all the department of otology and nearly all of general medicine. The most important element of direct treatment is to correct all functional disturbances of the ear and its appendages. The complete function of the Eustachian tube must be restored by the use of inflation applications of adrenalin and stimulation with nitrate of silver or electricity. In this matter the otological treatment for tinnitus aurium and deafness are practically identical. In certain cases the tinnitus becomes unbearable because of its severity or the nervous condition of the patient, and patients may suffer very severely from it. Fortunately, in these cases, the condition never lasts very long. Care must be taken in the application of local treatment, since too energetic measures are almost sure to disturb the circulation further and so increase the ringing in the ears. Nor will the reaction after severe treatment always bring benefit.

General Conditions.—When the cause of tinnitus aurium and the subinflammatory condition in the ear structures that is at the base of it, depends on constitutional conditions, then the treatment must apply mainly to these conditions and the prognosis of the case depends on the power to secure relief by medical means. In all cases the general treatment is nearly as

important as the local and the treatment of the nasopharynx and of the Eustachian tube is more important than the treatment of the tympanum proper. The fault of treatment generally is that too much attention is paid to the ear and too little to the throat and pharynx. On the other hand, there are supposed to be specific drugs and these are used when general conditions should be treated.

The most important feature of the whole subject is the possible prevention of tinnitus aurium. For this the avoidance of mouth-breathing is absolutely necessary. Animals never breathe through the mouth, except when respiration is very deep, because of recent severe exertion. Anyone who knows much of dogs and horses knows also that if their noses are held they will not open their mouths to breathe until they have to gasp for breath and they almost strangle before doing so. It is important then to train children with regard to mouth-breathing early in life and to make them live a life as much in accordance with nature as possible.

Adenoid Operations and Mortality.—Dr. Putnam said that not long since he had been asked to see a case in consultation in which purulent meningitis had developed after an operation for adenoids. The termination of the case was, of course, fatal. It seems probable to him that there are many more fatalities after adenoid operations than are reported or than there are usually considered to be. Some time ago he saw a similar case in a young adult of twenty years suffering from a typical acute infectious meningitis after operation. It seems not unlikely that in these cases the removal of the lymphatic tissue leaves lymph passages open for the absorption of infectious material of various kinds, which, owing to conditions, is practically always present in the throat.

Specific Meningitis.—Dr. Reynold Webb Wilcox reported a case in which an operation for adenoids was followed by meningitis with all its symptoms of aseptic conditions. Examination of the cerebrospinal fluid, however, showed the presence of the *Micrococcus intracellularis*. In these cases it seems that such microorganisms may be latent, or at least entirely inactive in the lymphoid tissues in the throat and then, after operation, find their way directly into the meninges through the rich lymphatic system which exists in this region. In this case there were no ear or nose complication and no possible question of the diagnosis which had been made by strict bacteriological methods.

Endocarditis After Adenoid Operations.—Dr. Coley said that he had been asked to see a case of endocarditis which occurred after an operation for adenoids. He knows of the occurrence of two other cases in which septic infections of serous membranes followed a successful operation for the removal of the over-grown adenoid tissue. He considers that physicians should recognize that there is always a certain amount of danger after an operation for adenoids and that patients should be forewarned of this and in the case of children the parents should be given some hint of the possibility of septic conditions.

Adenoid Operations at Home.—Dr. Daniels said that to his mind the principal danger in adenoid operations consisted in their performance in the physician's own office and then their walking home shortly afterward through the streets where the dust is almost sure to contain infectious material. It must not be forgotten that there is a large open wound and that air necessarily passes over it. Dr. Daniels considers that the operation should never be done in a physician's office under any circumstances and considers that the taking of this precaution has had not a little to do with his excellent result.

Use of Bromides.—Dr. Bryant, in closing the discussion, said that not infrequently he found the bromides of service in lessening the amount of discomfort occasioned by the tinnitus aurium. Patients who are very nervous, however, sometimes do not react well to sedatives and usually these are the patients who are most bothered by even slight amounts of ringing in the ears. Where the bromides will allay the nervousness there is marked improvement under their administration. In all cases it should be remembered that the underlying conditions, whether it be the gouty diathesis or pure anemia, or defects of the circulation, or congestion of mucous membranes all over the body, as from cold, the general treatment is more important than the local treatment.

Successful Therapy.—Success in the treatment of tinnitus aurium depends not a little on the temperament of the patient. If the sufferer is easily irritated and unable to stand discomfort well then the outlook is very unfavorable for any relief. Under ordinary circumstances, however, relief can be afforded in the vast majority of cases. Dr. Bryant considers that it is a very fortunate thing that his paper should have brought out in the discussion the question of the dangers involved in the removal of adenoids from the throat in certain cases. The operation is by no means so trivial as it is often considered and failure to take proper precautions by careful cleansing of the throat for days beforehand and the avoidance of infectious inoculation afterward may have the most serious consequences. It must not be forgotten that in these cases of enlarged tonsils and hypertrophic adenoid tissues microorganisms have been caught in large abundance in the lymphoid tissues. Owing to conditions they are destroyed at once, but lie more or less dormant for some time and consequently are ready to be absorbed as soon as the operation for adenoids is performed. The emissary veins and the rich lymphatic connections between the outside and the inside of the skull at this point makes any such infection particularly dangerous.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON GENITO-URINARY SURGERY.

Stated Meeting, held January 20, 1904.

The President, James Pedersen, M.D., in the Chair.

Case of Carcinoma of Retained Testis.—Dr. Sinclair Tousey presented this specimen and reported the case.

Dr. Ramon Guiteras said he had had but one similar case, the retention occurring within the inguinal canal. The case terminated fatally. He had had a number of cases of retained testes occurring in different positions and only one proved malignant.

Dr. Howard Lilienthal said he had a case of sarcoma of retained testis which would be reported in his paper.

Dr. Pedersen referred to a case on which he had operated two or three years ago, the details of which were reported at the time. The patient when fourteen years old had received a blow on the left testicle which had driven it out of the scrotum and up to a point apparently just within the internal abdominal ring. He gave the matter no attention until fourteen years later, when he complained of pelvic pain and disturbances of the bladder and rectum. It was at this time that he came under observation. The tumor was about 8 inches long and 4 inches in its widest diameter; it was wedged between the bladder and rectum. A secondary process involving the retroperitoneal glands extended upward along the blood vessels, as in Dr. Tousey's case, and could not be removed. The main tumor was removed and the patient made a good recovery. He was com-

fortable and relieved of his symptoms for four months. He died cachectic at the end of seven months.

Dr. Sinclair Tousey, in reply to Dr. Van der Poel, said that the patient gave a history of severe pain in the back and then there suddenly commenced a distention of the abdomen very similar to ascites resulting from an enteroptosis. During the course of treatment, when the distention subsided, there was still present a large tumor in the abdomen which was much larger than its present size, the cystic portion being twice as large as the solid portion. The patient then presented the appearance of a woman with a large uterine fibroid.

Small Lipoma of the Cord.—Dr. Ramon Guiteras presented a specimen of a small lipoma of the cord which he had removed during the course of a hernia operation. He said they were frequently met with during hernial operations, but did not think that they possessed any particular significance. He presented the specimen chiefly for the reason that there was found at one end of the lipomatous mass a hard nodule which felt as though there was a small concretion in the mass. After excising the lipoma he incised the nodule and found simply hard tissue which he thought to be a fibro-lipoma of the cord.

Dr. Howard Lilienthal said he did not believe lipomata of the cord to be especially rare and, contrary to what had been stated, he believed this was a very important matter because it was not infrequently a direct cause of the hernia; if the cord was in proper position the growth of the mass distended the canal and permitted a hernial protrusion.

Dr. E. L. Keyes, Jr., said that Dr. Alexander presented to the section a man upon whom he had operated some months before for a fibro-lipoma of the cord, so diagnosed by the pathologist. The patient had recurrences and the case proved to be apparently a malignant growth. At the time of operation the whole inguinal region was solid with the tumor which was evidently growing up into the pelvis. He said it would be interesting to know if this tumor gave evidences of malignancy.

Dr. Guiteras said he had seen a number of cases of lipoma of the cord in performing hernia operations, but that he had never seen such a hard nodule in the lipoma and he presented the specimen in order to obtain the opinion of the section regarding its nature.

Prostatic Douche Tube.—Dr. Ramon Guiteras presented this instrument, which consisted of a simple tube having an inflow and an outlet connected with the main tube. It was shaped like a sound, was hollow and had in it four slits near the end which were for the escape of the irrigating fluid. The proximal end of the instrument was connected with the douche-jar and any solution one cared to employ ran through the tube. When the end of the tube was in the bladder beyond the sphincter the prostatic urethra was douched and the fluid would go into the bladder. When the patient's bladder became distended after douching the prostatic urethra the fluid then would escape alongside the tube. If spasm existed and there was a tendency to expel the fluid from the urethra with force the grasp was relaxed on the outflow tube which acted as a vent and resulted in taking off the pressure. In cases of chronic posterior urethritis the instrument worked very well, especially when there was an associated chronic prostatitis when massage of the prostate had been done. He thought it might have been better to have a double current tube, and so he had had made another tube. There was a small tube running through the main one, and, near the end, there were four slits, one on each side. The water or irrigating fluid escaped along the sides.

Dr. John Van der Poel thought that, in some cases, it might prove to be a very useful instrument, especially

where one wished to irrigate the posterior urethra and the bladder at the same time with some solution so weak that it would not have a deleterious effect on the anterior urethra. As a rule he followed a different method because he had never found that passing such an instrument in these cases necessary. He emphasized the importance of not using strong irrigating solutions. His method ordinarily had been to inject the anterior urethra from the meatus with a weak solution of cocaine or eucaïne; then with a Janet or Janet-Frank syringe he introduced the fluid into the bladder from the meatus, and allowed the patient to pass it out afterward. If the mucous membrane anterior to the cut-off muscle was sufficiently anesthetized when the fluid entered the urethra it would usually cause a relaxation of the cut-off muscle and no trouble would be experienced in getting fluid into the bladder. Success depended much upon anesthetizing properly the mucous membrane, covering so to speak, the anterior surface of that cut-off muscle. He had treated many cases of gonorrhea, where he had found it not at all necessary to anesthetize the urethra, especially subacute and chronic cases.

Dr. Pederson thought it significant that this means of irrigating the prostatic urethra had not produced epididymitis. He believed that certain cases of chronic posterior urethritis and chronic prostatitis have a patulous condition of the ejaculatory ducts and he has felt that any form of irrigation under these conditions is likely to excite epididymitis. He confessed to some timidity in applying irrigation to the posterior urethra in these cases, even by means of a soft rubber catheter.

Dr. John Van der Poel said that in chronic cases he had never seen an epididymitis or an orchitis arise when the irrigations were given as he had indicated. He had seen such occur when there was an acute anterior urethritis, but the number of cases of epididymitis in acute disease were far rarer, according to his observation, since he had used this method.

Renal Decapsulation in Chronic Nephritis.—Dr. Ramon Guiteras read this paper and said that what he had to present was largely from two papers that had already been published. It was only within a comparative recent period that the kidney was considered a field for surgical treatment, as formerly it had belonged to the domain of the physician. Since Simon classified the surgical diseases of the kidney, the onward strides in kidney surgery had kept pace with the advances of surgery in other fields. Among the first suggestions for the operative treatment of nephritis, was one from Harrison who reported three cases of albuminuria which were cured by incising the parenchyma of the kidney nephrectomy, and he attributed his success to the relief of the increased renal tension which accompanied the nephritis. These cases were supposed to have been operated upon for albuminuria, although the real causes were suspected surgical conditions. One was operated upon for a suspected renal abscess and the other two for supposed stone. After the operation, Harrison was surprised to learn that the albumin had disappeared from the urine. This report really showed the possibility of this operation. Newman, of Glasgow, did nephropexy for torsion of the renal vessels in patients having albuminuria and cylinduria, and in both of his cases the albumin disappeared after the operation, although Dr. Guiteras did not think much importance could be attached to this, as they were probably both cases of movable kidney with congestion and interfered renal function. A number of cases of nephritis with hematuria and nephralgia he said were operated upon by nephrotomy by other surgeons, but in most of these cases it was thought that there was some surgical condition of the kidney present, such as stone. With such

cases, there had been noted an improvement in the condition of the urine, the pain and hematuria being relieved. In these cases, the operation was nephrotomy. In a collection of 25 cases operated upon for these symptoms, in 11 the kidney was removed with two deaths, and in 14 others in which nephrotomy was performed, there were two deaths. All these cases were unilateral and the operations were done for some supposed surgical disease of the kidney. It was afterward found that the albuminuria and casts disappeared from the urine and the patients were much benefited in all the cases. He said that, according to Israel, nephrotomy was indicated in cases of chronic nephritis only when there was hematuria, a nephralgia, or both. He then briefly reviewed the mechanism of the manner in which relief or cure was effected and stated that Israel's work was of great importance in renal surgery. He said that in 1899, Furgeson, of Chicago, wrote a paper and expressed the opinion that chronic nephritis should be treated on surgical principles, such as controlled inflammations in other parts of the body. To Edebohls belonged the credit of attempting to operate upon the kidneys purposely for the cure of Bright's disease. In his first contribution to this subject, the operative treatment of chronic nephritis, Edebohls reported 18 cases, 14 being bilateral and four unilateral. The examination of the urine, the previous history, and the appearance of the kidneys, were the chief factors in making a diagnosis. In 16, the operation was nephrotomy, 11 were bilateral and five unilateral. Dr. Guiteras then briefly review Dr. Edebohls' method of performing this operation. In the two remaining cases, he stripped the capsule entirely from the kidney, did not fix it to the abdominal wall, but replaced it in the fatty capsule. This operation is since known as Edebohls' operation for chronic Bright's. Among Edebohls' 18 cases, the right kidney was affected in four cases, the left alone in four cases, and both kidneys in nine cases, while in one case the unilateral or bilateral nature of the case was undetermined. There was no mortality among these 18 cases. In six of the eight cases in which the chronic Bright's disease was unilateral, the healthy condition of the opposite kidney was confirmed at the time of the operation. Summing up the results, Edebohls found that in eight cases which were observed for a sufficient length of time, the albuminuria and casts disappeared in from 4½ (the shortest time) to twelve months (the longest time). It was concluded that chronic Bright's disease was amenable to operation, although he did not state that all cases could be cured in all stages. Dr. Guiteras then offered an explanation of the relief which followed decapsulation. This operation resulted in the formation of adhesions and the growth of new arterial vessels supplying the kidney and contributing to the regeneration of the but little altered parenchymatous elements, as well as to the absorption of interstitial exudates, etc. In this respect Edebohls' operation differed from that of Harrison; the latter did the operation of nephrotomy to relieve tension and cure what he suspected to be a suppurating kidney and nephrolithiasis, while Israel performed the operation of nephrotomy to relieve congestion and in this way cure the patient of a neuralgia and hematuria; and from Pousson and others who operated for the same purpose. The question of bilaterality and unilaterality of chronic Bright's he said was fully solved and the opinions so far expressed that Bright's disease is unilateral, have not been backed by observations. He believed that, in order to have a true nephritis, it must be present in both kidneys, and it is a fact expressed by the pathologists that such changes occur in both organs, although they may vary in their course. He stated that among 500 autopsies made on those who had died of chronic Bright's disease, there was not one in which the

disease could be truly considered unilateral and only 14 where one kidney was more involved than the other. The next question to be considered was the correct diagnosis of nephritis and also how to differentiate between the various types of the disease upon inspection of a decorticated kidney. This was very important: any one who was experienced in post-mortem work must acknowledge the difficulty encountered in determining the pathological condition of the kidney by inspection and palpation of that organ either before the capsule is removed or afterwards, or even from the condition of the fatty capsule or the capsule propria. He said that Isreal had made the statement that chronic nephritis was more difficult to distinguish in the living, even after splitting the kidney, than in the dead. An examination of the capsule did not give an idea as to the condition of the kidney. This may be removed easily or with difficulty. At times there was found such a close relationship between the two capsules that they could not be separated on account of adhesions to one another. Furgeson, of Chicago, incises a piece of the renal tissue in order to facilitate diagnosis. The only procedure which would give a correct diagnosis he believed was to incise and remove a V-shaped piece from the cortical and pyramidal portions and make a microscopical study of it. He said that many cases of albuminuria and cylindruria were not, properly speaking, cases of Bright's disease. For example, a movable kidney may cause such a condition due to increased tension in the renal vessels as well as to the backward pressure upon the kidney of the urine through a kinking of the ureter. By performing a nephropexy the albumin and casts would disappear. If this disturbance in the circulation and function of the kidney was kept up long enough, a secondary nephritis might take place. He said that a nephritis of both kidneys might occur even when but one kidney was movable. In such an instance, a nephropexy might improve the condition and stay the process although it would not cure disease, if a true nephritis existed where certain pathological changes had taken place, and restore fully the function of the kidney as shown in the elimination of solids. He said Pousson claimed that the sympathetic relationship between the kidneys were somewhat similar to the relationship that existed between the two eyes and oftentimes operations upon one would relieve the same condition in the other. A time when the operation was considered to be imperative of course was when the patient was passing very little urine or none at all. He instanced a case by Whitacre, of Cincinnati, in which there was anuria, decapsulation of the kidney was followed by a return to the normal amount of urine passed in twenty-four hours. This patient was restored to perfect health. Marx, of Kansas City, had also met with similar success. Rocky, of Portland, Oregon, operated upon a case of anuria, but the patient died of uremia. Freeman operated upon a patient who was passing a fair amount of urine and who was in good condition, but this patient died eighteen hours later of suppression. Gibbons, of Scranton, operated upon a case of Bright's, passing a fair amount of urine, and this patient died of uremia five days after the decapsulation and fixation of one kidney. After reviewing reports of such cases in which decapsulation had been performed, he said that no conclusions could be drawn, for we knew that decapsulation would cure anuria in some cases, while it induced it in others.

It was his personal belief that a chronic diffuse nephritis was the most unfavorable condition for operation giving a 75 per cent. mortality, although many of these patients were operated upon who were in *extremis*, some of them suffering from general anasarca to such a degree that after decapsulation, they drained for several days out of the incision in the lumbar region. He

said that the benefit from the operation seemed to be from increasing the circulation within the kidney and that the circulation was increased by the formation of adhesions which brought a new fluid supply through these vessels. Some physicians argued that this increased circulation in the kidney could be compared with that in the lungs, *i.e.*, the anastomosis between the bronchial and pulmonary vessels. It was still a question with him whether it was better to decapsulate the kidneys partially and make them fast to the abdominal wall, or to fully decapsulate them and have them returned to their fatty capsule. He felt that the former method was the one of choice because of the firm adhesions which he had seen between the kidney and the abdominal wall, and the scant vascularity of the fatty capsules. It was not known just how much blood came from the fatty capsule, although Edebohls, at the Washington meeting of the American Association of Genito-urinary Surgeons, last year, had stated that he had seen in a recent autopsy quite large blood vessels which had penetrated the renal tissue through the newly formed capsule propria from the fatty capsules. Johnson, of San Francisco, experimented on dogs and attempted to show that the blood supply from the fatty capsule was very meager. Johnson had stated that the renal capsule consisted of two layers, the outer of which was the thicker. In decapsulation, it was the outer one that always came away, leaving the inner one lacerated but adherent. After decapsulation, a thin exudate appeared upon the surface which soon became a fibrous investment resembling the normal capsule in that it stripped readily, although it continued to grow thicker and more and more fibrous. In no case was there any considerable anastomosis between the renal and perineal blood channels. Even if the relation of the dog's kidney to the surrounding tissues was not the same as those in man, he said it was still probable that the reconstruction of the capsule was the same, and this reconstruction might indicate a renewal of the kidney tension in two months when the new capsule is thicker than the old, and recurrence of the symptoms in three and a half to four months when the new capsule is fully developed, and it might also account for the deaths that occurred after this period. Until there had been longer periods of observations he said that one might continue to think that when the new capsule forms, there will be a contraction with a diminution of the blood supply to that organ. The only chances of improvement after decapsulation would result from a period of freedom between the stripping off of the capsule proper and the consequent contraction of the new formed capsule.

It seemed to him that in cases of chronic Bright's disease, one should carefully study the conditions before advising operative procedures, and so long as the patient was fairly comfortable and getting rid of a sufficient amount of solids and doing well under dietetic treatment, waters, medicines, climate, etc., he believed such patients would do well without operating. If later the process advanced rapidly and there was fear of the heart action becoming impaired, he thought the time had arrived when operative interference should be advised. Some recover perfect health after operation, while in others the edema may persist. The urine is said to return to its normal condition in many cases, particularly in those in which the kidney was movable. He said it was interesting to know what operators mean when they say the urine was normal after the operation, whether it referred to the absence of such pathological manifestations as albuminuria and casts, or whether it referred as well to a return to the normal percentage of solids. In a number of cases the albumin and casts disappear after operation, while in others the albumin and casts persist, although less marked. Again, some pa-

tient showed no improvement at all in the condition of the urine. The best results in this line of work had been obtained in cases of movable kidney in which the albumin and casts were the only evidences of a Bright's disease, disappeared after the decapsulation. The statistics of 120 cases showed 16 per cent. cured, 40 per cent. improved, 11 per cent. unimproved; and of this list there were 33 per cent. deaths. These statistics were taken from an article read in Washington and were the result of a review of the literature and the answers of circular letters upon this subject. In cases of interstitial nephritis, he said the results appeared to be brilliant, when the albumin and casts disappeared from the urine, although the amount of solids secreted were not brought down to the normal. The mortality in cases of chronic interstitial nephritis unfortunately was 26 per cent.; in chronic parenchymatous nephritis it was 25 per cent.; in chronic diffuse nephritis 75 per cent. The results obtained were those computed by the reports of different men. The operation of decapsulation of the kidney for the cure of chronic Bright's he said was a new procedure and one that as yet had not been fully threshed out.

Dr. Ramon Guiteras said that many medical men now looked with favor upon the operation. He said that at the annual meeting of the Pennsylvania State Medical Society, Dr. Tyson read a paper on this subject; he and most of the men who discussed the paper expressed their belief in the operation. He said that many of the leading physicians in New York advocate the operation, as was evidenced by the discussion of the subject before the Society of Greater New York.

Dr. George M. Edebohls said that the subject under discussion was such an extensive one that it could not be properly gone over in a reasonably limited time. All were very much indebted to Dr. Guiteras for his untiring efforts in collecting such valuable material in such a painstaking way and analyzing the situation for the profession as he did in his paper to-night and in other contributions. He said that Dr. Guiteras had practically given them the substance of two papers previously published, giving the pros and cons, and these he had thoroughly ventilated. Dr. Edebohls said he himself had kept on with the work and was at present busy making a thorough investigation of the after effects and results of renal decapsulation for chronic nephritis. Even now there was sufficient material to enable us to speak of the immediate results of the operation, and he believed that very soon one would be able to state positively that a given case of nephritis gave a prospect of relief, improvement, or cure from the operation of decapsulation, or again that the idea of any operative measure had better be abandoned. To illustrate he referred to a man, thirty-five years old, who had nephritis for three or four years. One and a half years ago his physician called his attention to the possibility of relief by operation, but he decided to wait until he could learn more of the results. He waited, and while waiting retinitis albuminurica developed. Now, statistics show that 67 per cent. of cases of chronic nephritis live less than a year after retinitis albuminurica becomes established. When the patient was told this he was ready to resort to any measure that offered him hopes of a longer life and asked for operation. The oculist told him it was too late, and his family physician that it was too early for operation in his case. Here were two directly clashing opinions which showed that the operation is looked upon from two widely different standpoints.

Dr. Edebohls said that he believed as soon as the clinical evidences established the fact that we were dealing with a case of chronic nephritis, then was the time to operate, for patients, under such conditions, always do better with the kidneys decapsulated. That was the

sum and substance of his position at the present time. He emphasized the importance of keeping under observation all patients who had been operated upon. At the time he published his first paper on this subject he reported 19 cases, out of which number he had then lost traces of but 3; with the exception of these 3, lost sight of long ago, had been able to follow to date every patient he had operated upon, his cases now numbering 73. He said he was just about concluding the investigation to date of these seventy cases with a view to early publication of the final results. In this paper he intended giving a résumé of the entire work done so far, and throwing what light he could upon what could be expected from the establishment of a collateral renal circulation. He had had three opportunities to operate a second time upon kidneys upon which a prior operation had been performed, and in each operation he had found large blood vessels, all pumping blood toward the kidney, so large that at the second operation a large number of ligatures were required to control the bleeding. That gave him the idea that the increased blood supply to the kidney was the reason why kidneys the seat of nephritis were improved after operation. He said the clinical results had proven to be satisfactory, and this being so we could afford to await the full explanation of the *modus operandi* which the future would bring. He said that quite a number of observers had investigated this point, experimenting upon dogs and rabbits, and the majority of them had agreed that there was an abundant collateral circulation established, some of the new formed vessels even passing to the depths of the kidney substance and the papillæ.

Dr. Edebohls knew of only three observations of the human kidney as observed post mortem some time after renal decapsulation. Jewett, of Buffalo, had reported one, and although he failed to note any considerable new circulation, his publication fails to carry the impression or conviction of a thorough study having been made. In a second case, published by Cutler, of Boston, no mention is made of the presence or absence of a new circulation. The third was a case of his own, the patient dying of pneumonia four months after bilateral renal decapsulation. Dr. John H. Larkin, of the Pathological Department of Columbia University, had removed both kidneys in connection with their surrounding structures. A careful and painstaking study of a large number of serial sections, soon to be published in detail by Dr. Larkin, had established the fact of the formation of numerous new blood channels between the kidney and the tissues surrounding it, especially the perirenal fat. He said that Dr. Guiteras and himself had early in 1902, and independently of each other, studied and recorded the early history of the development of the surgical treatment of nephritis, and that the facts in relation thereto as detailed by Dr. Guiteras in his paper of the evening were substantially correct.

Dr. Howard Lilienthal said he had never performed this operation although he had watched with much interest the work of others. From the report of the cases by Dr. Guiteras he said it struck him that improvement came on too soon after the operation if that improvement was supposed to be due to the formation of a new anastomosis. One, two, three or four days he believed to be too soon to expect new vessels to be formed.

Nephropexy.—Dr. Berg reported a case upon which a nephropexy had been performed according to the method of Edebohls two years ago; about two weeks ago a second operation was demanded on account of a resinking of that organ. At the time of operation a very careful note was taken regarding the

condition of the blood vessels, their number, etc. He found that the fatty capsule was not more vascular than it was at the time of the first operation. He thought that possibly some might have been present at the lower pole of the kidney but none passed from the capsule proper into the kidney tissue itself. When incised there was no bleeding whatever. It was a perfectly dry condition.

Dr. Edward L. Keyes, Jr., said he had not performed this operation of decapsulation except in one instance, and there was nephroptosis and catarrhal pyelitis with attacks of renal colic. The kidney was stitched in proper position and then the albumin and pus disappeared from the urine. In three other cases operation had been performed for suppuration in the kidney; besides this suppuration there was chronic interstitial nephritis. In two cases the kidney was incised under the impression that stone was present, but none was found although in one there was found a hard nodular scar suggesting the previous existence of a stone. In both these cases in which the kidney was incised the casts and albumin disappeared from the urine after the operation. One of these cases was followed but a few months, the other about five years. In another case a stone was supposed to be present; both kidneys were incised after splitting the capsule and even needles were stuck into the kidney in search of stone, but none was found. After this maneuver the albumin and casts disappeared from the urine. This was certainly two years ago, and the urine remained free from evidences of inflammation. What caused the relief he could not say. He said he had only once cut down upon a kidney after nephrorrhaphy had been done and he had found dense scar tissue, but in no place was it filled with blood vessels.

Dr. John Van der Poel said that he had been given an opportunity of examining a kidney three weeks ago after partial splitting of that organ and search for stone had been performed. The adhesions which had formed were quite dense, more so than one would suppose, and were well formed. Like Dr. Lilienthal he had never had the opportunity of splitting the kidney for nephritis, but he would do the operation when the opportunity presented itself, especially after hearing the results that had been obtained by Dr. Edebohls and Dr. Guiteras. He believed this operation appealed to the surgical more than to the medical side of the profession. The medical profession were, as a rule, loath to allow the patient to fall into surgical hands until the operation was more definitely and better understood. Medical cases at present were not, as a rule, transferred from the medical to the surgical wards until certain evidences of so-called surgical complications appeared, that is, pus in addition to the albumin, and casts. When the results of the operation were better understood by the profession at large it would give surgeons more opportunities for satisfying themselves regarding the true merits of the procedure.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON PEDIATRICS.

Regular Monthly Meeting, held January 14, 1904.

The President, David Bovaird, Jr., M.D., in the Chair.

Diabetes Insipidus.—Dr. E. S. Sill presented a case of diabetes insipidus in a child of six years. According to the mother's reports when the child first came under observation, it was passing five to twelve quarts of urine in a day. During the last three or four days this quantity has been reduced to about eight quarts per day. The patient perspired very little, the mouth was constantly dry and there was an almost constant thirst. The

urine was of pale straw color, specific gravity 1.005, containing in the twenty-four hours from eighteen to thirty grams of urea. The child is being treated with fluid extracts of ergot, fifteen minims three times a day and is apparently improving. Altogether some eighty-one cases of this affection have been reported in children. The most important element in the history is heredity, the patients usually coming of highly neurotic parents. It occurs much more frequently in males than in females. In one case the etiological factor seemed to be the drinking of large quantities of ice water. In a certain number of cases lesions of the solar plexus were found. Syphilis was suspected in a number of the cases. An interesting effect of diabetes insipidus reported by several observers may be a retardation of growth. No other abnormal ingredients are ever found in the urine and sometimes the only symptom present is the passage of large quantities of water. At times the diagnosis may be made by the harsh dry skin and the rough feel of the integument.

Prognosis.—The prognosis of the disease as regards life is good, though the affection is usually chronic. Out of 77 cases followed for a number of years, 16 recovered and 14 proved fatal. Forty-seven of the patients improved either as the result of treatment or nature's effort to restore proper metabolism. In children particularly the thirst becomes insufferable if water is kept from them and, in a number of reported cases, they have, when confined in rooms, drunk their own urine. This is, however, as a rule, only very slightly different from water. The children are usually nervous and there is a history of nervous symptoms of other kinds before the development of the diabetes insipidus. Besides the ergot, valerian is said to be of service in the treatment of the disease, especially in the form of valerianate of zinc.

Dr. Sarah Welt Kakeles reported two cases of diabetes insipidus that had been under her observation in recent years. The first occurred in a girl $9\frac{1}{2}$ years of age, who seemed perfectly healthy except for this symptom and who was under observation for three years. During this time nearly every drug that might possibly help the condition was tried except opium and atropine, which have, in Dr. Kakeles' opinion, a constitutional effect that is very undesirable in children. The only drug from which any satisfaction was obtained is antipyrin. The child passed from under observation for a time and later developed oculomotor palsy with distinct ptosis. Nine months later, she was found to be suffering from true diabetes mellitus. The second case was a boy of about five years of age who was passing about ten or twelve quarts of water a day. When it is remembered that this represents from 20 to 25 pounds and the boy weighed not much more than 40 pounds, and that therefore he was passing two-thirds of his weight in urine every day, some idea of the disturbance of metabolism can be appreciated.

Diabetes Insipidus Under Two Years of Age.

Dr. James J. Walsh reported a case of diabetes insipidus occurring in a child aged about eighteen months. The little one, who came from a very nervous family, was strong and healthy-looking, but fell out of bed one morning and during the next day or two developed frequency of urination and an almost insatiable thirst. Examination of the urine showed a specific gravity of 1.003 with no albumin and no sugar. It was hard to decide how much urine the child was passing, as it was usually passed in the napkins that had to be worn, but a conservative estimate seemed to be between five and six quarts. The little one could not talk, but soon made its desire for water known by making a clucking noise with the mouth and insisted on being given to drink many times during the night. In this case the symptoms gradually subsided and after about three months seemed to

disappear entirely. Since then there has been no recurrence.

Addison's Disease and Frequency of Urination.—Dr. Charles Hermann reported a case of Addison's disease in which the most prominent symptom at the beginning was marked frequency of urination. Other symptoms, however, called attention to the condition of the suprarenal bodies and suprarenal extract was administered. As a result the frequency of urination gradually disappeared. It seems possible that the suprarenal extract may be of service in the treatment of diabetes insipidus.

Bronchopneumonia.—Dr. William P. Northrup read a paper on the course and symptoms of bronchopneumonia. There are three forms of the disease, according to the three forms of resistance which are found in the human being. The first is hypostatic pneumonia, which occurs in the least resisting and in children, particularly in marantic patients. Then there is the true bronchopneumonia, in patients who are more resistant but who are handicapped by the existence of some previous affection or condition. Finally, there is lobar pneumonia, a true primary disease, usually benign and in children is the pneumonia of the better class of practice. Hypostatic pneumonia is one symptom of approaching death. Bronchopneumonia usually occurs after infections, but may occur after nasopharyngeal catarrh or after colds and the like, which are usually but wrongfully considered not to be infective. During the last three years Dr. Northrup has seen 167 cases of primary bronchopneumonia in the autopsy room. None of these occurred after any of the exanthemata. Most of them develop while the children are under the care of foster mothers in the tenement houses and the previous course of the case could not be learned. It is the exception, however, in autopsies on children to find the lungs entirely free from pneumonia lesions, even where the death is from some other cause. One-third of the cases of bronchopneumonia are said to be primary, but this is too small a proportion for institutions. It must not be forgotten that acute coryza tracheitis, or cold with fever, may precede the pneumonia and then of course the affection must be considered secondary and not primary.

Seasonal Incidents.—Two-thirds of the cases occur between December and May. The male patients suffering from pneumonia, compared to females, are as five to four. It must be remembered, however, that there are more males than females in foundling asylums. Seventy per cent. of the cases observed occur under two years and it is evident that changes in the weather with the production of the slight infectious diseases known as colds and extension of this process into the lungs is responsible for the pneumonia. Vomiting occurred in only six out of 26 cases carefully noted for this symptom. Chills occurred in but two cases. The respiration is frequent, but so also is the pulse and the respiration. A very characteristic symptom is the cry with an abrupt end due to the fact that the child suffers when it uses its lungs to expel air. In a word there is expiratory discomfort. This is probably what causes the characteristic grunt which experienced nurses look upon as an almost infallible sign of pneumonia. Pulse respiration ratio is, of course, disturbed. Usually it is about one to three in bronchopneumonia, though the respirations may become so rapid as to be one to two.

Physical Signs.—On inspection there is an almost characteristic retraction of the upper parts of the lungs. Percussion does not give much information, but because of its value in lobar pneumonia it is looked upon as one of the most important physical diagnostic methods. Auscultation discloses subcrepitant and fine râles over the affected area. This is practically conclusive proof of

the existence of pneumonia. The characteristic symptoms may not be recognized at the beginning. The foci of the disease may be so scattered as not easily to be detected. The development of the disease then must be awaited in order to make the diagnosis.

Duration of the Disease.—The average duration is about thirteen to fourteen days. Some of the milder cases are entirely well at the end of four or five days. The severer cases in weak children may run on for two or three months. These produce chronic changes in the lungs and there is apt to be a suspicion of the presence of the tubercle bacillus. The end is usually by lysis. Crisis is exceptional, occurring only in nine out of 167 cases. Severe forms of the disease last longer and may give such symptoms as Cheyne-Stokes respiration. Cough is apt to be dry, nagging and irritative rather than productive. Gas distention of the abdomen always makes the conditions serious because of interference with respiration and is especially important in weak children and slow running cases.

Differential Diagnosis.—Under three years of age almost any grave illness must be suspected of being bronchopneumonia and care must be taken to exclude it before the doctor's mind is made up. Cough is not essential to the diagnosis and the temperature chart is of very little value, as bronchopneumonia may occur without fever. The most important sign is the disturbance of the pulse respiration. This occurs quite frequently in measles, and measles is apt also to be accompanied by bronchitis, easily permitting a mistake of diagnosis, but it must not be forgotten that measles also not infrequently leads to bronchopneumonia. Scarlet fever is seldom accompanied by disturbance of the pulse respiration ratio. Any infection of the respiratory passages may be followed by bronchopneumonia. A distinction is sometimes made between disseminated pneumonia and capillary bronchitis. The distinction, however, is of no practical value, as it is impossible to separate the two diseases from one another, small foci of bronchopneumonia, being almost surely present and the treatment and prognosis of the two disorders is the same.

Diphtheria and Bronchopneumonia.—Sometimes it happens that bronchopneumonia is diagnosed when diphtheria is the real agent at work. It is the laryngeal stenosis which gives rise to the supposed bronchial breathing that leads to the mistake. This mistake has happened even in experienced hands. Meningitis is distinguished from bronchopneumonia by the comparatively slow pulse, the slow respiration and the tendency to coma. While the shoulders and neck are stiff in pneumonia, they have not the rigidity which is noticed always in meningitis. Meningitis may further be distinguished finally by lumbar puncture.

Treatment of Pneumonia.—Dr. William P. Northrup said that the first principle in the treatment must of course be not to treat the lesion but the patient with the lesion. As bronchopneumonia is usually a secondary disease, the sufferer from it is twice a patient. This secondary infection is due to the fact that the lymphoid tissue and connective tissue in young children is little resistive. Bronchopneumonia should be considered as a pulmonary erysipelas or cellulitis. This thought makes for care in its management by recalling its seriousness and also shows how uncertain the prognosis is. As it is an affection of the lungs it is important that the air that the patient gets should be pure. Only a limited amount of air can be absorbed and that must be capable of doing as much work as possible. Alonzo Clark, who first permitted air to enter a typhus fever ward, had the heroic courage of a magnificent conviction.

Prophylaxis.—Under certain conditions prophylaxis can be more or less assured. Measles is not infrequently followed by diphtheria, and a succession of these

two diseases is almost sure to give rise to some bronchopneumonia. If the diphtheria can be prevented, usually the bronchopneumonia danger will not be so great. Hence measles patients, at least in institutions, should be immunized against diphtheria. During the course of the infectious fevers in childhood, if children are allowed to breathe cool fresh air, a window in their room being open toward the south with the bed in the middle of the room and the eyes away from the light, then bronchopneumonia will seldom develop. When bronchopneumonia itself is severe this same treatment is the best possible fundamental principle, especially in splenic cases. The room may be so cold that nurses have to wear overcoats and gloves. The little patients are not any more likely to take cold than they would be if suffering from erysipelas. Once during the Civil War the hospital in which a number of patients suffering from pneumonia were, was burned down. The papers gave heartrending accounts of the suffering of the soldiers who, in the midst of winter, had to be treated as best they could wherever they could be laid after removal from the hospital. Most of them had no other protection than a canvas spread over some barrels. The papers said that all of them would die. As a matter of fact, they all recovered. This is quite different, of course, from the exposure of a debutante, for instance, who, after breathing the secondhand air of a crowded room with resistive vitality lowered by overfeeding and underdressing, comes suddenly out into the air and thus catches cold. A fever patient will not catch cold in bed.

Water and Unbreathed Air.—Water in small quantities must be given frequently and will be found very conducive to quiet and rest. It will not infrequently be found that this is forgotten or not sufficiently attended to. The physician must protest against the crowding of the patient's room by friends who are depressant rather than encouraging. In a recent case Dr. Northrup found a tearful grandmother, two old women cronies of hers, a gas fixture and a gas stove, four grown sons and a pug dog. Besides this there were two doctors and yet, though the room was not very large, the little patient was somehow supposed to be getting its portion of air.

Drugs.—The first and most important drug is castor oil, as cleansing of the intestines is very necessary. Avoid the use of syrups and all fermenting foods. As has been well said, have air everywhere but not in the abdomen. Whenever there is meteorism, high rectal infusion should be employed, for which warm salt solution is the best. With regard to the antipyretic drugs, none of them will be employed with benefit and all of them will do harm.

Treatment of Fever.—As an antipyretic water should be used with discretion, but the fever is now the main index of the seriousness of the disease, better than a careful thermometric chart is for the physician to stand for ten minutes at the foot of the bed and carefully inspect the patient. Whenever there is restlessness a cold cloth may be applied to the forehead and temples and also to the wrists. This will refresh the patient much better than an ice cap. If the little patient has a plentiful supply of hair the cold from an ice cap will not penetrate very deeply. A polar bear sleeps very comfortably on an ice pillow. Notwithstanding the depressant chronic character of the disease, stimulants are not always needed. The circulation, however, must be maintained. It is always the rule to find children suffering from pneumonia with cold clammy feet, though their head is too hot. Hot footbaths should occasionally be given with great care, the tub being placed under the clothes. An excellent stimulant is a hot saline, which will also promote general comfort.

General Precautions.—Children will be much more comfortable if they are not asked to take food and drink too often, this only disturbs them and rest is extremely important as a part of the treatment, there is almost more danger of overfeeding than of underfeeding. Another precaution is to avoid any constriction of the chest, consequently there must be no poultices and vests and bandaging. These things only serve to macerate the skin and make the child restless. While the child is asleep it must not be disturbed for any reason. Avoid steam and the use of canopies, since they rob the child of oxygen. When pulse and respiration are both very much disturbed and there is a tendency to inflation of the abdomen the feet will often be found cold and the indication is for stimulation. The dusky face with severe coughing may prove to be no more than the effect of cold feet. Whisky and strychnine are the only two drugs that deserve to be mentioned.

How to Kill a Pneumonia Patient.—Directions have been given so often as to how to save a pneumonia patient and consultants so often find these directions glaringly violated that it is thought that perhaps directions how to kill a pneumonia patient may prove of service. Light two or three gas jets in the room and perhaps also a gas stove. Have at least eight friends spend most of the time in the room. Wrap the child up tightly in a poultice, and if the temperature is from 104° to 105° F., renew the poultice and make it tighter than before. Fill the room full of steam, surround the bed by blankets, close the windows hermetically, and then perhaps you have done everything possible to keep the child from recovering from its pneumonia. Perhaps, however, the free administration of some coal-tar products may be suggested as a *coup de grace*.

Hygienic Treatment.—Dr. Emmet Holt said that it is gratifying indeed to hear that the modern physicians are insisting on the hygienic treatment of pneumonia. Students are now taught that pneumonia patients recover and are not cured, though just the opposite teaching used to be the rule. Not all pneumonia patients are in the same class and not all should be treated the same way. A little patient six weeks old with respirations eighty and fine râles all over the chest, wheezing, cyanotic, prostrated, is not in the same class with a patient whose temperature is 105° F. and whose condition is reasonably good otherwise. The old time ideas of stuffing cotton into the windows in order to prevent the slightest amount of fresh air must, of course, be preached and practised. On the other hand cold for delicate patients is almost sure to do harm. It must not be forgotten that it is delicate marasmic children that suffer most from bronchopneumonia and they will not react well to air so cold that the nurses must wear gloves and fur coats.

Steam Valuable Adjuvant.—Dr. Holt believes that steam may sometimes be a valuable adjuvant to treatment, especially in the cases of weakly children. When there is continual irritation and a tight, dry wheezing cough with many râles, then steam is the most efficient agent the practitioner has at hand. Dr. Holt's experience in this matter justifies him in saying authoritatively that steam, far from doing harm is a very valuable factor for the relief of the respiratory symptoms.

Death Rate.—The death rate in institutions is supposed to be more than one-half the patients. In private practice, however, the death rate of bronchopneumonia is not very high. In the last two years Dr. Holt has seen 119 cases, 92 of them in consultation. A fair proportion of them were severe, some of them were actually desperate cases. Seventy were lobar pneumonia and of these 61 got well. Twenty-one of these were under two years of age. As a rule one entire lung was involved in these cases. Forty-eight of the cases were broncho-

pneumonia and 41 of them recovered. Most of the fatalities were under one year of age and a great many under six months. There is evidently a strong tendency to get well except in very young infants.

Feeding After Air.—Next to air Dr. Holt considers that feeding should be emphasized. Be careful of overfeeding early in the disease. There is a temptation to think that the patient is in for a siege of illness and that the more nutrition that he has the better, but this is a mistake. With regard to the reduction of temperature it should be tried only when absolutely necessary and by whatever means causes the least bother to the patient. Especially must there be no rule that whenever the patient's temperature is at a certain mark he must be bathed. If they are sleeping they must not be awakened for any reason. Physicians' children are much more apt to suffer in this matter than others.

What Not To Do.—Dr. Floyd Crandall said that it seems important to emphasize the things not to do in pneumonia. Overstrenuousness must be avoided. It wears the patients out like the treatment of diphtheria before the introduction of antitoxin. Syrups disturb digestion and take away the appetite. The taking of the temperature often disturbs children without giving any very definite information. Especially is this true if the temperature is taken per rectum. Children rebel and cry. Dr. Crandall emphasizes the fact that comparatively few deaths from bronchopneumonia occur in private practice, notwithstanding the expectation in this regard from what is known in hospital practice.

Fresh Air a Panacea.—Dr. Knopf said that he was delighted to find the open-air treatment suggested for an acute pulmonary disease, as it is now so universally practised for chronic cases. In tuberculosis, however, patients are not plunged into cold air at once, but are allowed to grow accustomed to it, the same thing would seem to be eminently suitable for children. One window should be open at a time, so as not to do harm. Dr. Knopf believes that the gentle counterirritation of cupping is a good means of lessening the irritability of pneumonic tissue, especially lessening the congestion at the beginning of a pneumonia, and thus preventing it from being as serious as it otherwise would be. Drugs are not of much importance and yet there must be no therapeutic nihilism. Jacobi has found digitalis good from the beginning. Whisky should be used whenever there is depression. The coal-tar products have killed many patients. It must not be forgotten that the creosote ordinarily employed is a coal-tar product.

So-called Primary Bronchopneumonia.—Dr. Chas. G. Kerley said that so-called primary bronchopneumonia often follows a cold. This must be remembered for the treatment of ordinary bronchitis in young children must always be considered important. No bronchitis should ever be called mild because children are so lacking in resistance. Reduction in the food is very necessary and the milk should be cut down one-half. In order to insure fresh air, patients should be removed for an hour at least each day to another room. Cold air is good for most patients, but not down to forty degrees for young children. When the respirations are very high and the cough irritating, the canopy tent is of great service. In these conditions cold air would increase the spasm.

Spasmodic Bronchitis.—Dr. Walter Lester Carr said that in spasmodic bronchitis or bronchial irritation, steam is of service. It makes the secretion more abundant. Hot water bags to the feet will often so stimulate the patient as to make the secretion freer. The child's general condition must be watched and no overdistention of the abdomen allowed to occur. No syrups should be employed in the treatment of the affection.

THE JOHNS HOPKINS HOSPITAL MEDICAL SOCIETY.

Stated Meeting held February 15, 1904.

New Tube for Uterine Cultures.—Dr. Little exhibited this instrument, devised by himself, as a modification of the Döderlein tube. The latter is perfectly satisfactory when the lochia flow freely and there is no difference between the cervix and fundus as to bacterial contact. The tube is, however, somewhat difficult to work, the rubber portion often kinking in an annoying manner. In Dr. Little's modification the end of the piston is formed by an ordinary elastic band which is attached to a thread running down the tube and lies loose in the uterine cavity until drawn into the glass tube by the operator.

So-called Rheumatoid Diseases.—Dr. Goldthwaite read this paper. His attention to this class of cases had been called out by the swamping of his clinic by chronic cripples unloaded on him from the general practice of Boston. Study of the conditions had led him to a new classification of joint-affections based on pathological conditions: (1) Dry, hyperemic, relaxed or villous arthritis; a local condition characterized by congestion and folding of the joint membranes; occurs often in the knee and frequently accompanied by flatfoot. Treatment is by massage and prognosis is good. (2) "Rheumatoid" (better, atrophic) arthritis. A progressive condition characterized by swelling, followed by atrophy of joint and periarticular structures. (3) "Osteoarthritis" (better, hypertrophic arthritis); a very common form characterized by Heberden's nodes, thickening of cartilages and of bone; essential characteristic is hypertrophy; true ankylosis rare, but motion may be restricted. When spine is affected pressure pains are common. (4) Infectious arthritis. The absorption of any toxin may give a joint trouble; the absorption of the organisms themselves gives a specific arthritis. Rheumatism, since it is quite similar in its pathology to other infections, is probably due to unknown organisms. The pathology and treatment of all those forms are similar and they are subdivided into groups according to the infecting organism. In typhoid fever we may have the typhoid spine (due to absorption of the toxin) or a bone abscess (due to the organisms themselves). (5) Gout. Here there is a deposit of sodium urate and a constant bone change. The treatment of these conditions varies with the form. In the villous type treatment is expectant unless it is plain that removable villi are present. In the atrophic form local and general stimulating treatment modify the condition, perhaps even arrest it. In the hypertrophic form protection of the joint is indicated in the acute stage and later excision of the nodes if they are interfering with function. In the infectious form the same line of treatment is indicated as would be used in fighting a septicemia. Baths and depressing drugs should be avoided and salicylates are only indicated in the early stage, giving way later to stimulating drugs.

Dr. Painter discussed the pathology of these conditions. In the villous form there is a swelling of the capsule, a hypertrophy of the blood vessels, and an infiltration with red blood corpuscles. Little fluid is present. The cartilage shows a striation; it is thin and does not glisten normally. In the hypertrophic type there is no thickening of the capsule and the cartilage, though thickened, does not become striated or lose its glistening appearance. In the atrophic form the bone becomes smaller, the trabeculae diminish in number and size and there is a deposit of fat in the intertrabecular tissue. In the infectious forms there is a general infiltration of all the elements more symmetrical than in the villous form. By MacRudden's new method the

metabolism has been estimated in these rheumatoid conditions and it has been found that the Ca and Mg in the feces of these patients is double that in normal feces and double the amount ingested.

Dr. McCrea said that the following classification of arthritis had been adopted at the Johns Hopkins Hospital: (1) Infectious cases with definite bacterial limits; (2) gout; (3) rheumatic fever—probably several organisms are concerned; (4) rheumatoid conditions, characterized by atrophy and hypertrophy which represent different manifestations of the same disease and are due to the toxins of many organisms. (5) Still's disease—infectious, accompanied by enlarged spleen. There is a definite series from this arthritis deformans of children up to the adult form. Dr. Finney said that he had removed lipoma arborescens from many joints but that he had done it in a half-hearted way. Since hearing Dr. Goldthwaite's paper, however, he would attack these cases with more confidence.

Dr. Emerson said that diminished Ca and Mg conological conditions seen in gonorrheal joints—from those cases with little fluid and no joint destruction to those with great destructive changes. Dr. Bloodgood said that this variation in the pathological picture bears a pretty close relation to the duration of the disease. In infectious arthritis opening and irrigating the joint may cause the process to recede and give a good functional result, but later scar tissue forms and poor function results. Early recognition is therefore important.

Dr. Emerson said that diminished Ca and Mg content in the feces had been observed in other conditions (diabetes) in which there was no bone change.

Dr. Goldthwaite, in closing the discussion, said that the atrophic and hypertrophic forms of arthritis, though different diseases, might coexist. They appear, however, at entirely different times of life. In gonorrheal joints he advised waiting until there were signs of infiltration of the capsule and then opening and irrigating. The ultimate results of surgical interference in rheumatoid cases depend on the particular case. In one of his patients, who had a mass of villi in his knee-joint like a bag of earth worms, the villi were removed and the function of the knee has been greatly improved. The cases can always be helped some.

MEDICAL AND CHIRURGICAL FACULTY OF MARYLAND.

SECTION ON CLINICAL MEDICINE.

Stated Meeting, held February 19, 1904.

Laminectomy for an Intradural Spinal Tumor.—

Dr. Cushing showed two cases. The first had been admitted to Dr. Osler's service at the Johns Hopkins Hospital complaining of disability of gait and pain in left arm—paroxysmal in character, not severe, increased by sneezing, etc. One year later sensory symptoms developed on the right side. The diagnoses suggested were tuberculosis of the bone reaching the cord, chronic cervical pachymeningitis, syringomyelia, tumor, and hematomyelia. Symptoms pointed to a lesion of the sixth or seventh cervical segment. Laminectomy was done, an intradural spinal tumor (fibrosarcoma) was found and removed. All symptoms disappeared immediately and the man is now quite well.

Left-sided Paralysis.—The second case had been shot in the forehead two years previously developing later left-sided paralysis and facial twitching with a difficulty of motor speech. Several operations were done and finally a bullet was removed. Soon after the patient developed epileptic convulsions without aura or Jacksonian characteristics. The patient was also too easily amused and cried too easily—suggesting a frontal

lobe lesion. An X-ray showed the bullet. A Wagner flap was turned down, five adhesions broken up, and the scar of the bullet tract and the bullet itself found and removed.

Pseudobulbar Paralysis.—Dr. Hirschberg read a paper on this subject. This condition was first described by Joffroy in 1872 and characterized by bulbar symptoms without demonstrable lesions in the bulbar nuclei. The symptom-complex may indeed be due to various pathological conditions. Gradual progression, electrical changes and tremors distinguish the Duchenne type of bulbar paralysis from the false type; atrophy, distinguishes polioencephalitis; recovery, distinguishes myasthenia gravis. Pseudobulbar paralysis occurs after two apoplectic attacks, shows normal electrical reactions and more or less marked mental changes (aphasia, involuntary laughing and crying, etc.). There is often a history of lues. Arteriosclerosis of the basilar vessels and foci in both hemispheres have been found pathologically. Dr. Hirschberg's case complained of poor locomotion and gave a leucitic and marked alcoholic history. Two attacks of apoplexy had occurred and after the last both legs and arms had been paralyzed, memory had been poor and some delusions present. Voice was weak and hoarse, palate reflex gone on left side. No improvement had occurred under specific treatment.

Dr. Thomas said that this condition was not an entity at all but a symptom of varied pathological conditions and the name "Pseudobulbar Paralysis" was a poor one. One apoplectic stroke leaves no palsy of these muscles, because they are bilaterally represented; but after a stroke affecting each side the condition occurs.

Multiple Pelvic Fracture, with Rupture of Urethra and Bladder.—Dr. Harrison reported this case. The man had been admitted to the hospital badly shocked and suffering with great pain, paralysis of the legs, desire but inability to urinate. Catheter obtained only blood. Operation revealed multiple fracture of the pelvis, and extraperitoneal rupture of the bladder and a rupture of the urethra—the prostatic portion having been stripped out of the prostate. Tube and gauze drainage were inserted suprapubically and peritoneally; no suture of bladder or urethra was done. Recovery was good. Patient now passes urine six or eight times during the day, sometimes not getting up at all at night. Passes a No. 26 sound with ease and there is no bleeding. He has no erections (injury to pudic nerve?) but desire is present and ejaculation occurs on masturbation.

BOOK REVIEWS.

INFECTIOUS DISEASES, THEIR ETIOLOGY, DIAGNOSIS AND TREATMENT. By G. H. ROGER, Professor Extraordinary in the Faculty of Medicine of Paris. Translated by M. S. GABRIEL, M.D. Lea Brothers & Co., New York and Philadelphia.

THE time has seemed ripe when the vast number of researches on the infectious diseases might be brought into a comprehensive synthetic whole, and Roger has made an attempt to do so and has succeeded most admirably.

The work is a truly philosophical one that is both stimulating and practical. General laws rather than small details are considered and the subject of microbic growth, poisons and the body's defensive agencies are set forth in a new light that compels thought and inspires new ideas.

The work is a large one, over twenty-four chapters occupying eight hundred pages. General Considerations, Characters of Pathogenic Bacteria, Etiology of Infections, Pathology of Infections, Microbic Associa-

tions, Defense and Reactions of the Organism—are the titles of the earlier portions of the volume. Then follow considerations of some of the effects. Suppuration, Gangrene, Septicemias, Nodular Infections, Cellular Degenerations and Fever being discussed in these chapters.

In four further chapters the influence of Infections on the various parts of the body is discussed from entirely modern viewpoints and the evolutions and consequences of infection further treated.

From the therapeutic side the author takes up the study of the Mechanisms of Immunity, and in three final chapters deals with the Therapeutics of Infectious Diseases—their Hygiene and Prophylaxis.

Truly this is a desirable acquisition to the English-speaking student—made most attractive by the publishers' best art.

ATLAS OF THE EXTERNAL DISEASES OF THE EYE, including a Brief Treatise on the Pathology and Treatment. By Prof. Dr. O. HAAB. Second Edition, Revised. Edited by G. E. DE SCHWEINITZ, A.M., M.D., Professor of Ophthalmology in the University of Pennsylvania, etc. With 98 colored lithographic illustrations on 48 plates. W. B. Saunders, New York, Philadelphia and London.

THE second edition of this book can only elicit the unqualified commendation given on its first appearance. It is a remarkable achievement, both as a work of art and as a scientific production. The thoroughly scholarly text is illuminated by the illustrations as is seldom the case. A certain amount of new matter, together with eight colored plates, have been added to this edition. The book, with its plates, is not only to the credit of the author, but is truly an achievement with which the publisher may well be satisfied.

DISEASES OF THE EYE. By L. WEBSTER FOX, A.M., M.D., Professor of Ophthalmology in the Medico-Chirurgical College of Philadelphia. With five colored plates, and 296 illustrations in the text. D. Appleton & Co., New York.

THE author offers this treatise as the outgrowth of his experience as a lecturer during the last ten years. He states that it is his object not to supply a mere ephemeral sketch of existing information on ophthalmology, but to provide a digested summary of the known facts. The publisher's work has been admirably done. Many of the illustrations are familiar as having been borrowed, doubtless, by the courtesy of the publisher from better known books, without recognition, it may be stated. As a statement of personal opinion with regard to many mooted points the book has a certain interest, but it can hardly be called well-digested when seventeen operations are mentioned for the relief of ptosis while toxic amblyopia is dismissed with a few sentences, and the relation of ocular disorders to constitutional diseases and disorders of the nervous system occupies two pages. There are many statements which might be considered inaccurate or misleading, which it is not necessary to specify. But in a certain sense the book will undoubtedly appeal to those for whom it is intended, because it contains allusions to many of the most recent procedures. In this sense it is certainly up to date.

PRACTICAL GYNECOLOGY. A comprehensive Text-Book for Students and Physicians. By E. E. MONTCOMERY, M.D., LL.D., Professor of Gynecology, Jefferson Medical College, etc. Second Revised Edition. P. Blakiston's Son & Co., Philadelphia.

It is probable that more books have appeared in the last few years on gynecology than on any other sim-

ilarly restricted field of medicine and yet the editions of each keep multiplying with a regularity that must at least be gratifying to their authors and publishers. The popularity of the present volume is easy to understand, however, for it is certainly one of the most attractive and readable in use. The work of revision has produced notable changes in arrangement, and in rewriting and keeping pace with more recent operative procedures, seventy pages have been added. In the section on the operative treatment of retroversion the author describes many of the newer operations and also a method of performing ventral suspension differing from his former practice.

The illustrations form a conspicuous feature of the book and many new ones have been added to this edition. Nearly all are original and their uniformity of execution is most pleasing. The numerous drawings of microscopic sections are particularly well done and serve to show how much superior for teaching purposes good drawings are to the poorly reproduced photomicrographs which have lately become the fashion in illustrating.

All in all, this is a most satisfactory work, modern in teaching and practical in application, with the subject-matter well arranged and attractively presented.

A TREATISE ON ORTHOPEDIC SURGERY. By ROYAL WHITMAN, M.D., Instructor in Orthopedic Surgery in the College of Physicians and Surgeons of Columbia University, New York, etc. Second Edition. Lea Brothers & Co., Philadelphia and New York.

THIS is in every way a most valuable and agreeable book in which the soundness of the author's views as to pathology and treatment is equalled only by the wealth and appropriateness of the illustrations. Most of these are from photographs and have been prepared with a skill and discrimination that leave little to be desired.

In this edition the work has been revised and some new matter and illustrations added, though no important changes seem to have been required.

Perhaps in no other department of medical writing is a profusion of illustrations so necessary as in this, where countless forms of apparatus and their methods of application have to be described, and too much cannot be said in praise of the figures in this book, which really illustrate and show unusual thoughtfulness and care in their selection, preparation and execution. All the newer procedures, such as the Lorenz method of reduction for congenital dislocation of the femur are clearly described and figured, while the author's eminence in his specialty renders the book not only complete and up-to-date, but also authoritative.

THE FOUR EPOCHS OF WOMAN'S LIFE. Maidenhood, Marriage, Maternity, Menopause. By ANNA M. GALBRAITH, M.D. With an Introductory Note by JOHN H. MUSSEY, M.D. W. B. Saunders & Company, Philadelphia, New York and London.

DR. MUSSEY's introduction runs thus: "It has been well said that the bulwarks of a nation are the mothers. Any contribution to the physical, and hence the mental, perfection of woman should be welcomed alike by her own sex, by the thoughtful citizen, by the political economist, and by the hygienist. Observation of the truths, expressed in a modest, pleasing, and conclusive manner, in the essay of Dr. Galbraith, contribute to this end. These truths should be known by every woman, and I gladly commend the essay to their thoughtful consideration."

This should of itself be an excellent commendation of the book, and physicians will find it an excellent instrument for giving important information easily, thoroughly, and without any possibility of offense.